

# OCF Resource to OneM2M Module Class Mapping Specification

VERSION 2.0.3 | June 2019



**OPEN** CONNECTIVITY  
FOUNDATION™

CONTACT [admin@openconnectivity.org](mailto:admin@openconnectivity.org)

Copyright Open Connectivity Foundation, Inc. © 2019.  
All Rights Reserved.

3 Legal Disclaimer

4

5 NOTHING CONTAINED IN THIS DOCUMENT SHALL BE DEEMED AS GRANTING YOU ANY  
6 KIND OF LICENSE IN ITS CONTENT, EITHER EXPRESSLY OR IMPLIEDLY, OR TO ANY  
7 INTELLECTUAL PROPERTY OWNED OR CONTROLLED BY ANY OF THE AUTHORS OR  
8 DEVELOPERS OF THIS DOCUMENT. THE INFORMATION CONTAINED HEREIN IS PROVIDED  
9 ON AN "AS IS" BASIS, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW,  
10 THE AUTHORS AND DEVELOPERS OF THIS SPECIFICATION HEREBY DISCLAIM ALL OTHER  
11 WARRANTIES AND CONDITIONS, EITHER EXPRESS OR IMPLIED, STATUTORY OR AT  
12 COMMON LAW, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF  
13 MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. OPEN CONNECTIVITY  
14 FOUNDATION, INC. FURTHER DISCLAIMS ANY AND ALL WARRANTIES OF NON-  
15 INFRINGEMENT, ACCURACY OR LACK OF VIRUSES.

16 The OCF logo is a trademark of Open Connectivity Foundation, Inc. in the United States or other  
17 countries. \*Other names and brands may be claimed as the property of others.

18 Copyright © 2019 Open Connectivity Foundation, Inc. All rights reserved.

19 Copying or other form of reproduction and/or distribution of these works are strictly prohibited.

20

21

22 CONTENTS

23

24 1 Scope ..... 1

25 2 Normative references ..... 1

26 3 Terms and definitions ..... 1

27 4 Document conventions and organization ..... 2

28 4.1 Conventions ..... 2

29 4.2 Notation ..... 2

30 5 Theory of Operation ..... 3

31 5.1 Interworking Approach ..... 3

32 5.2 Mapping Syntax ..... 3

33 5.2.1 Introduction ..... 3

34 5.2.2 General ..... 3

35 5.2.3 Value Assignment ..... 3

36 5.2.4 Property Naming ..... 3

37 5.2.5 Arrays ..... 3

38 5.2.6 Conditional Mapping ..... 3

39 6 Device Type Mapping ..... 3

40 6.1 Introduction ..... 3

41 6.2 oneM2M Device Types to OCF Device Types ..... 3

42 7 Resource to oneM2M Module Class Equivalence ..... 6

43 7.1 Introduction ..... 6

44 7.2 oneM2M Module Classes to OCF Resources ..... 6

45 8 Detailed Mapping APIs ..... 8

46 8.1 Introduction ..... 8

47 8.2 3D Printer ..... 8

48 8.2.1 Derived model ..... 8

49 8.2.2 Property definition ..... 9

50 8.2.3 Derived model definition ..... 9

51 8.3 Acoustic Sensor ..... 11

52 8.3.1 Derived model ..... 11

53 8.3.2 Property definition ..... 11

54 8.3.3 Derived model definition ..... 12

55 8.4 AirCon Job Mode ..... 12

56 8.4.1 Derived model ..... 12

57 8.4.2 Property definition ..... 12

58 8.4.3 Derived model definition ..... 15

59 8.5 Airflow ..... 16

60 8.5.1 Derived model ..... 16

61 8.5.2 Property definition ..... 16

62 8.5.3 Derived model definition ..... 18

63	8.6	Air Purifier Job Mode .....	20
64	8.6.1	Derived model .....	20
65	8.6.2	Property definition .....	20
66	8.6.3	Derived model definition .....	22
67	8.7	Air Quality Sensor .....	24
68	8.7.1	Derived model .....	24
69	8.7.2	Property definition .....	24
70	8.7.3	Derived model definition .....	26
71	8.8	Alarm Speaker .....	29
72	8.8.1	Derived model .....	29
73	8.8.2	Property definition .....	29
74	8.8.3	Derived model definition .....	30
75	8.9	Audio Volume .....	31
76	8.9.1	Derived model .....	31
77	8.9.2	Property definition .....	31
78	8.9.3	Derived model definition .....	32
79	8.10	Auto Document Feeder .....	33
80	8.10.1	Derived model .....	33
81	8.10.2	Property definition .....	33
82	8.10.3	Derived model definition .....	33
83	8.11	Battery .....	34
84	8.11.1	Derived model .....	34
85	8.11.2	Property definition .....	34
86	8.11.3	Derived model definition .....	36
87	8.12	Binary Object .....	38
88	8.12.1	Derived model .....	38
89	8.12.2	Property definition .....	38
90	8.12.3	Derived model definition .....	40
91	8.13	Binary Switch .....	41
92	8.13.1	Derived model .....	41
93	8.13.2	Property definition .....	41
94	8.13.3	Derived model definition .....	41
95	8.14	Boiler .....	42
96	8.14.1	Derived model .....	42
97	8.14.2	Property definition .....	42
98	8.14.3	Derived model definition .....	42
99	8.15	Brewing .....	43
100	8.15.1	Derived model .....	43
101	8.15.2	Property definition .....	43
102	8.15.3	Derived model definition .....	43
103	8.16	Brightness .....	44
104	8.16.1	Derived model .....	44
105	8.16.2	Property definition .....	44
106	8.16.3	Derived model definition .....	45

107	8.17	Clock.....	45
108	8.17.1	Derived model.....	45
109	8.17.2	Property definition.....	45
110	8.17.3	Derived model definition.....	46
111	8.18	Clothes Dryer Job Mode.....	47
112	8.18.1	Derived model.....	47
113	8.18.2	Property definition.....	47
114	8.18.3	Derived model definition.....	49
115	8.19	Colour.....	51
116	8.19.1	Derived model.....	51
117	8.19.2	Property definition.....	51
118	8.19.3	Derived model definition.....	52
119	8.20	Colour Saturation.....	53
120	8.20.1	Derived model.....	53
121	8.20.2	Property definition.....	53
122	8.20.3	Derived model definition.....	53
123	8.21	Credentials.....	54
124	8.21.1	Derived model.....	54
125	8.21.2	Property definition.....	54
126	8.21.3	Derived model definition.....	54
127	8.22	Dehumidifer Job Mode.....	55
128	8.22.1	Derived model.....	55
129	8.22.2	Property definition.....	55
130	8.22.3	Derived model definition.....	57
131	8.23	Door Status.....	58
132	8.23.1	Derived model.....	58
133	8.23.2	Property definition.....	59
134	8.23.3	Derived model definition.....	59
135	8.24	Electric Vehicle Connector.....	60
136	8.24.1	Derived model.....	60
137	8.24.2	Property definition.....	60
138	8.24.3	Derived model definition.....	61
139	8.25	Energy Consumption.....	62
140	8.25.1	Derived model.....	62
141	8.25.2	Property definition.....	62
142	8.25.3	Derived model definition.....	64
143	8.26	Energy Generation.....	66
144	8.26.1	Derived model.....	66
145	8.26.2	Property definition.....	66
146	8.26.3	Derived model definition.....	67
147	8.27	Filter Info.....	68
148	8.27.1	Derived model.....	68
149	8.27.2	Property definition.....	68
150	8.27.3	Derived model definition.....	69

151	8.28	Foaming .....	70
152	8.28.1	Derived model .....	70
153	8.28.2	Property definition .....	70
154	8.28.3	Derived model definition .....	70
155	8.29	Grinder .....	71
156	8.29.1	Derived model .....	71
157	8.29.2	Property definition .....	71
158	8.29.3	Derived model definition .....	72
159	8.30	Heating Zone .....	73
160	8.30.1	Derived model .....	73
161	8.30.2	Property definition .....	73
162	8.30.3	Derived model definition .....	73
163	8.31	Height .....	74
164	8.31.1	Derived model .....	74
165	8.31.2	Property definition .....	74
166	8.31.3	Derived model definition .....	75
167	8.32	Hot Water Supply .....	76
168	8.32.1	Derived model .....	76
169	8.32.2	Property definition .....	76
170	8.32.3	Derived model definition .....	76
171	8.33	Impact Sensor .....	77
172	8.33.1	Derived model .....	77
173	8.33.2	Property definition .....	77
174	8.33.3	Derived model definition .....	78
175	8.34	Keep Warm .....	79
176	8.34.1	Derived model .....	79
177	8.34.2	Property definition .....	79
178	8.34.3	Derived model definition .....	80
179	8.35	Keypad .....	81
180	8.35.1	Derived model .....	81
181	8.35.2	Property definition .....	81
182	8.35.3	Derived model definition .....	82
183	8.36	Liquid Level .....	82
184	8.36.1	Derived model .....	82
185	8.36.2	Property definition .....	83
186	8.36.3	Derived model definition .....	83
187	8.37	Liquid Remaining .....	83
188	8.37.1	Derived model .....	83
189	8.37.2	Property definition .....	84
190	8.37.3	Derived model definition .....	84
191	8.38	Lock .....	85
192	8.38.1	Derived model .....	85
193	8.38.2	Property definition .....	85
194	8.38.3	Derived model definition .....	85

195	8.39	Motion Sensor .....	86
196	8.39.1	Derived model .....	86
197	8.39.2	Property definition .....	86
198	8.39.3	Derived model definition .....	87
199	8.40	Open Level .....	87
200	8.40.1	Derived model .....	87
201	8.40.2	Property definition .....	88
202	8.40.3	Derived model definition .....	89
203	8.41	Operation Mode .....	90
204	8.41.1	Derived model .....	90
205	8.41.2	Property definition .....	90
206	8.41.3	Derived model definition .....	90
207	8.42	Overcurrent Sensor .....	91
208	8.42.1	Derived model .....	91
209	8.42.2	Property definition .....	91
210	8.42.3	Derived model definition .....	92
211	8.43	Power Save .....	93
212	8.43.1	Derived model .....	93
213	8.43.2	Property definition .....	93
214	8.43.3	Derived model definition .....	93
215	8.44	Print Queue .....	94
216	8.44.1	Derived model .....	94
217	8.44.2	Property definition .....	94
218	8.44.3	Derived model definition .....	94
219	8.45	Push Button .....	95
220	8.45.1	Derived model .....	95
221	8.45.2	Property definition .....	95
222	8.45.3	Derived model definition .....	96
223	8.46	Refrigeration .....	96
224	8.46.1	Derived model .....	96
225	8.46.2	Property definition .....	96
226	8.46.3	Derived model definition .....	97
227	8.47	Relative Humidity .....	98
228	8.47.1	Derived model .....	98
229	8.47.2	Property definition .....	98
230	8.47.3	Derived model definition .....	99
231	8.48	Robot Cleaner Job Mode .....	99
232	8.48.1	Derived model .....	99
233	8.48.2	Property definition .....	99
234	8.48.3	Derived model definition .....	101
235	8.49	Steam Closet Job Mode .....	102
236	8.49.1	Derived model .....	102
237	8.49.2	Property definition .....	102
238	8.49.3	Derived model definition .....	104

239	8.50	Temperature.....	105
240	8.50.1	Derived model.....	105
241	8.50.2	Property definition.....	105
242	8.50.3	Derived model definition.....	106
243	8.51	UV Sensor.....	109
244	8.51.1	Derived model.....	109
245	8.51.2	Property definition.....	109
246	8.51.3	Derived model definition.....	109
247	8.52	Water Sensor.....	110
248	8.52.1	Derived model.....	110
249	8.52.2	Property definition.....	110
250	8.52.3	Derived model definition.....	111
251	8.53	Weight.....	111
252	8.53.1	Derived model.....	111
253	8.53.2	Property definition.....	111
254	8.53.3	Derived model definition.....	112
255			
256			

257 Figures

258 **No table of figures entries found.**

259 Tables

260 Table 1 – oneM2M Device Type to OCF Device Type Mapping ..... 3

261 Table 2 – oneM2M Module Classes to OCF Resource Type Mapping ..... 6

262 Table 3 – The property mapping for "onem2m.3Dprinter" ..... 9

263 Table 4 – The properties of "onem2m.3Dprinter". ..... 9

264 Table 5 – The property mapping for "onem2m.acousticsensor" ..... 11

265 Table 6 – The properties of "onem2m.acousticsensor" ..... 11

266 Table 7 – The property mapping for "onem2m.airconjobmode". ..... 13

267 Table 8 – The properties of "onem2m.airconjobmode". ..... 14

268 Table 9 – The property mapping for "onem2m.airflow". ..... 16

269 Table 10 – The properties of "onem2m.airflow". ..... 17

270 Table 11 – The property mapping for "onem2m.airpurifierjobmode". ..... 20

271 Table 12 – The properties of "onem2m.airpurifierjobmode". ..... 22

272 Table 13 – The property mapping for "onem2m.airqualitysensor" ..... 24

273 Table 14 – The properties of "onem2m.airqualitysensor". ..... 25

274 Table 15 – The property mapping for "onem2m.alarmspeaker". ..... 29

275 Table 16 – The properties of "onem2m.alarmspeaker". ..... 29

276 Table 17 – The property mapping for "onem2m.audioVolume". ..... 31

277 Table 18 – The properties of "onem2m.audioVolume". ..... 31

278 Table 19 – The property mapping for "onem2m.autodocumentfeeder". ..... 33

279 Table 20 – The properties of "onem2m.m.autodocumentfeeder". ..... 33

280 Table 21 – The property mapping for "onem2m.m.battery" ..... 34

281 Table 22 – The properties of "onem2m.m.battery". ..... 35

282 Table 23 – The property mapping for "onem2m.m.binaryobject". ..... 39

283 Table 24 – The properties of "onem2m.m.binaryobject". ..... 39

284 Table 25 – The property mapping for "onem2m.m.binaryswitch". ..... 41

285 Table 26 – The properties of "onem2m.m.binaryswitch. .... 41

286 Table 27 – The property mapping for "onem2m.m.boiler" ..... 42

287 Table 28 – The properties of "onem2m.m.boiler". ..... 42

288 Table 29 – The property mapping for "onem2m.m.brewing". ..... 43

289 Table 30 – The properties of "onem2m.m.brewing". ..... 43

290 Table 31 – The property mapping for "onem2m.m.brightness". ..... 44

291 Table 32 – The properties of "onem2m.m.brightness". ..... 45

292 Table 33 – The property mapping for "onem2m.m.clock". ..... 45

293 Table 34 – The properties of "onem2m.m.clock". ..... 46

294 Table 35 – The property mapping for "onem2m.m.clothesdryerjobmode". ..... 47

295 Table 36 – The properties of "onem2m.m.clothesdryerjobmode". ..... 49

296 Table 37 – The property mapping for "onem2m.m.colour". ..... 51

297 Table 38 – The properties of "onem2m.m.colour". ..... 51

298	Table 39 – The property mapping for "onem2m.m.coloursaturation".	53
299	Table 40 – The properties of "onem2m.m.coloursaturation".	53
300	Table 41 – The property mapping for "onem2m.m.credentials".	54
301	Table 42 – The properties of "onem2m.m.credentials".	54
302	Table 43 – The property mapping for "onem2m.m.dehumidiiferjobmode".	55
303	Table 44 – The properties of "onem2m.m.dehumidiiferjobmode".	57
304	Table 45 – The property mapping for "onem2m.m.doorStatus".	59
305	Table 46 – The properties of "onem2m.m.doorStatus".	59
306	Table 47 – The property mapping for "onem2m.m.electricvehicleconnector".	61
307	Table 48 – The properties of "onem2m.m.electricvehicleconnector".	61
308	Table 49 – The property mapping for "onem2m.m.energyconsumption".	62
309	Table 50 – The properties of "onem2m.m.energyconsumption".	63
310	Table 51 – The property mapping for "onem2m.m.energygeneration".	66
311	Table 52 – The properties of "onem2m.m.energygeneration".	66
312	Table 53 – The property mapping for "onem2m.m.filterinfo".	68
313	Table 54 – The properties of "onem2m.m.filterinfo".	69
314	Table 55 – The property mapping for "onem2m.m.foaming".	70
315	Table 56 – The properties of "onem2m.m.foaming".	70
316	Table 57 – The property mapping for "onem2m.m.grinder".	71
317	Table 58 – The properties of "onem2m.m.grinder".	71
318	Table 59 – The property mapping for "onem2m.m.heatingzone".	73
319	Table 60 – The properties of "onem2m.m.heatingzone".	73
320	Table 61 – The property mapping for "onem2m.m.height".	74
321	Table 62 – The properties of "onem2m.m.height".	75
322	Table 63 – The property mapping for "onem2m.m.hotwatersupply".	76
323	Table 64 – The properties of "onem2m.m.hotwatersupply".	76
324	Table 65 – The property mapping for "onem2m.m.impactsensor".	77
325	Table 66 – The properties of "onem2m.m.impactsensor".	78
326	Table 67 – The property mapping for "onem2m.m.keepwarm".	80
327	Table 68 – The properties of "onem2m.m.keepwarm".	80
328	Table 69 – The property mapping for "onem2m.m.keypad".	81
329	Table 70 – The properties of "onem2m.m.keypad".	82
330	Table 71 – The property mapping for "onem2m.m.liquidlevel".	83
331	Table 72 – The properties of "onem2m.m.liquidlevel".	83
332	Table 73 – The property mapping for "onem2m.m.liquidremaining".	84
333	Table 74 – The properties of "onem2m.m.liquidremaining".	84
334	Table 75 – The property mapping for "onem2m.m.lock".	85
335	Table 76 – The properties of "onem2m.m.lock".	85
336	Table 77 – The property mapping for "onem2m.m.motionSensor".	86

337	Table 78 – The properties of "onem2m.m.motionSensor" .....	86
338	Table 79 – The property mapping for "onem2m.m.openlevel" .....	88
339	Table 80 – The properties of "onem2m.m.openlevel" .....	88
340	Table 81 – The property mapping for "onem2m.m.operationmode" .....	90
341	Table 82 – The properties of "onem2m.m.operationmode" .....	90
342	Table 83 – The property mapping for "onem2m.m.overcurrentsensor" .....	91
343	Table 84 – The properties of "onem2m.m.overcurrentsensor" .....	91
344	Table 85 – The property mapping for "onem2m.m.powersave" .....	93
345	Table 86 – The properties of "onem2m.m.powersave" .....	93
346	Table 87 – The property mapping for "onem2m.m.printqueue" .....	94
347	Table 88 – The properties of "onem2m.m.printqueue" .....	94
348	Table 89 – The property mapping for "onem2m.m.pushbutton" .....	95
349	Table 90 – The properties of "onem2m.m.pushbutton" .....	95
350	Table 91 – The property mapping for "onem2m.m.refrigeration" .....	96
351	Table 92 – The properties of "onem2m.m.refrigeration" .....	97
352	Table 93 – The property mapping for "onem2m.m.relativeHumidity" .....	98
353	Table 94 – The properties of "onem2m.m.relativeHumidity" .....	98
354	Table 95 – The property mapping for "onem2m.m.robotcleanerjobmode" .....	100
355	Table 96 – The properties of "onem2m.m.robotcleanerjobmode" .....	101
356	Table 97 – The property mapping for "onem2m.m.steamclosetjobmode" .....	102
357	Table 98 – The properties of "onem2m.m.steamclosetjobmode" .....	103
358	Table 99 – The property mapping for "onem2m.m.temperature" .....	105
359	Table 100 – The properties of "onem2m.m.temperature" .....	106
360	Table 101 – The property mapping for "onem2m.m.uvsensor" .....	109
361	Table 102 – The properties of "onem2m.m.uvsensor" .....	109
362	Table 103 – The property mapping for "onem2m.m.watersensor" .....	110
363	Table 104 – The properties of "onem2m.m.watersensor" .....	110
364	Table 105 – The property mapping for "onem2m.m.weight" .....	111
365	Table 106 – The properties of "onem2m.m.weight" .....	112
366		

## 367 1 Scope

368 This document provides detailed mapping information to provide equivalency between oneM2M  
369 defined Module Classes and OCF defined Resources.

370 A oneM2M Bridge is Asymmetric Client Bridge, therefore this document provides unidirectional  
371 mapping for Device Types (oneM2M Devices to OCF Devices), identifies equivalent OCF  
372 Resources for specific oneM2M Module Classes, and defines the detailed Property by Property  
373 mapping using OCF defined extensions to JSON schema to programmatically define the mappings.

## 374 2 Normative references

375 The following documents are referred to in the text in such a way that some or all of their content  
376 constitutes requirements of this document. For dated references, only the edition cited applies.  
377 For undated references, the latest edition of the referenced document (including any amendments)  
378 applies.

379 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)  
380 Specification -- Part 1: Core specification  
381 <https://www.iso.org/standard/53238.html>  
382 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Core\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Core_Specification.pdf)

383 ISO/IEC 30118-2:2019, Information technology – Open Connectivity Foundation (OCF)  
384 Specification – Part 2: Security specification  
385 <https://www.iso.org/standard/74239.html>  
386 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Security\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Security_Specification.pdf)

387 ISO/IEC 30118-3:2019, Information technology – Open Connectivity Foundation (OCF)  
388 Specification – Part 3: Bridging specification  
389 <https://www.iso.org/standard/74240.html>  
390 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Bridging\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Bridging_Specification.pdf)

391 ISO/IEC 30118-4:2019, Information technology – Open Connectivity Foundation (OCF)  
392 Specification – Part 4: Resource type specification  
393 <https://www.iso.org/standard/74241.html>  
394 Latest version available at:  
395 [https://openconnectivity.org/specs/OCF\\_Resource\\_Type\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Resource_Type_Specification.pdf)

396 ISO/IEC 30118-5:2019, Information technology – Open Connectivity Foundation (OCF)  
397 Specification – Part 5: Smart home device specification  
398 <https://www.iso.org/standard/74242.html>  
399 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Device\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Device_Specification.pdf)

400 Derived Models for Interoperability between IoT Ecosystems, Stevens & Merriam, March 2016  
401 [https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-](https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-Between-IoT-Ecosystems_v2-examples.pdf)  
402 [Between-IoT-Ecosystems\\_v2-examples.pdf](https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-Between-IoT-Ecosystems_v2-examples.pdf)

## 403 3 Terms and definitions

404 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018,  
405 ISO/IEC 30118-2:2019, and ISO/IEC 30118-3:2019 and the following apply.

406 ISO and IEC maintain terminological databases for use in standardization at the following  
407 addresses:

- 408 – ISO Online browsing platform: available at <https://www.iso.org/obp>
- 409 – IEC Electropedia: available at <http://www.electropedia.org/>

## 410 **4 Document conventions and organization**

### 411 **4.1 Conventions**

412 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,  
413 states, or similar terms are printed with the first letter of each word in uppercase and the rest  
414 lowercase (e.g., Network Architecture). Any lowercase uses of these words have the normal  
415 technical English meaning

### 416 **4.2 Notation**

417 In this document, features are described as required, recommended, allowed or DEPRECATED as  
418 follows:

419 Required (or shall or mandatory).

420 – These basic features shall be implemented to comply with OIC Core Architecture. The phrases  
421 "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if performed  
422 means the implementation is not in compliance.

423 Recommended (or should).

424 – These features add functionality supported by OIC Core Architecture and should be  
425 implemented. Recommended features take advantage of the capabilities OIC Core Architecture,  
426 usually without imposing major increase of complexity. Notice that for compliance testing, if a  
427 recommended feature is implemented, it shall meet the specified requirements to be in  
428 compliance with these guidelines. Some recommended features could become requirements  
429 in the future. The phrase "should not" indicates behaviour that is permitted but not  
430 recommended.

431 Allowed (or allowed).

432 – These features are neither required nor recommended by OIC Core Architecture, but if the  
433 feature is implemented, it shall meet the specified requirements to be in compliance with these  
434 guidelines.

435 – Conditionally allowed (CA) The definition or behaviour depends on a condition. If the specified  
436 condition is met, then the definition or behaviour is allowed, otherwise it is not allowed.

437 Conditionally required (CR)

438 – The definition or behaviour depends on a condition. If the specified condition is met, then the  
439 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default  
440 unless specifically defined as not allowed.

441 DEPRECATED

442 – Although these features are still described in this document, they should not be implemented  
443 except for backward compatibility. The occurrence of a deprecated feature during operation of  
444 an implementation compliant with the current document has no effect on the implementation's  
445 operation and does not produce any error conditions. Backward compatibility may require that  
446 a feature is implemented and functions as specified but it shall never be used by  
447 implementations compliant with this document.

448 Strings that are to be taken literally are enclosed in "double quotes".

449 Words that are emphasized are printed in *italic*.

450 **5 Theory of Operation**

451 **5.1 Interworking Approach**

452 The interworking between oneM2M defined Module Classes and OCF defined Resource Types is  
453 modelled using the derived model syntax described in Derived Models for Interoperability.

454 **5.2 Mapping Syntax**

455 **5.2.1 Introduction**

456 Within the defined syntax for derived modelling used by this document there are two blocks that  
457 define the actual Property-Property equivalence or mapping. These blocks are identified by the  
458 keywords "x-to-ocf" and "x-from-ocf". Derived Models for Interoperability does not define a rigid  
459 syntax for these blocks; they are free form string arrays that contain pseudo-coded mapping logic.

460 Within this document we apply the rules defined in clause 5.2 to these blocks to ensure consistency  
461 and re-usability and extensibility of the mapping logic that is defined.

462 **5.2.2 General**

463 All statements are terminated with a carriage return.

464 **5.2.3 Value Assignment**

465 The equals sign (=) is used to assign one value to another. The assignee is on the left of the  
466 operator; the value being assigned on the right.

467 **5.2.4 Property Naming**

468 All Property names are identical to the name used by the original model; for example, from the  
469 OCF Temperature Resource the Property name "temperature" is used whereas when referred to  
470 the derived ecosystem then the semantically equivalent Property name is used.

471 **5.2.5 Arrays**

472 An array element is indicated by the use of square brackets "[]" with the index of the element  
473 contained therein, e.g. range[1]. All arrays start at an index of 0. If an entire array is being  
474 referenced, then no index is included.

475 **5.2.6 Conditional Mapping**

476 When a mapping is dependent on the meeting of other conditions then the syntax:

477 if "condition", "mapping".

478 is applied.

479 **6 Device Type Mapping**

480 **6.1 Introduction**

481 This clause contains the mappings to/from Device Types.

482 **6.2 oneM2M Device Types to OCF Device Types**

483 Table 1 captures the equivalency mapping between oneM2M defined Device Types and OCF  
484 defined Device Types. The minimum Resource sets for each OCF Device is provided in  
485 ISO/IEC 30118-5:2019.

486 **Table 1 – oneM2M Device Type to OCF Device Type Mapping**

oneM2M Device Type	OCF Device Type
--------------------	-----------------

device3DPrinter	oic.d.3dprinter
deviceAirConditioner	oic.d.airconditioner
deviceAirPurifier	oic.d.airpurifier
deviceAirQualityMonitor	oic.d.airqualitymonitor
deviceAudioReceiver	oic.d.receiver
deviceBloodPressureMonitor	oic.d.bloodpressuremonitor
deviceCamera	oic.d.camera
deviceClothesDryer	oic.d.dryer
deviceClothesWasher	oic.d.washer
deviceCoffeeMachine	oic.d.coffeemachine
deviceCookerHood	oic.d.cookerhood
deviceCooktop	oic.d.cooktop
deviceDehumidifier	oic.d.dehumidifier
deviceDishWasher	oic.d.dishwasher
deviceDoor	oic.d.door
deviceDoorLock	oic.d.smartlock
deviceElectricVehicleCharger	oic.d.electricvehiclecharger
deviceFan	oic.d.fan
deviceFoodProbe	oic.d.foodprobe
deviceFreezer	oic.d.freezer
deviceGlucosemeter	oic.d.glucosemeter
deviceHumidifier	oic.d.humidifier
deviceKettle	oic.d.kettle

deviceLight	oic.d.light
deviceMicrogeneration	oic.d.energygenerator
deviceMultiFunctionPrinter	oic.d.multifunctionprinter
deviceOutdoorLamp	oic.d.light
deviceOven	oic.d.oven
devicePrinter	oic.d.printer
deviceRefrigerator	oic.d.refrigerator
deviceRobotCleaner	oic.d.robotcleaner
deviceScanner	oic.d.scanner
deviceSecurityPanel	oic.d.securitypanel
deviceSetTopBox	oic.d.stb
deviceSmartElectricMeter	oic.d.electrictmeter
deviceSmartPlug	oic.d.smartplug
deviceSteamCloset	oic.d.steamcloset
deviceStorageBattery	oic.d.battery
deviceSwitch	oic.d.switch
deviceTelevision	oic.d.tv
deviceThermostat	oic.d.thermostat
deviceWaterHeater	oic.d.waterheater
deviceWaterValve	oic.d.watervalve
deviceWeightScaleAndBodyCompositionAnalyzer	oic.d.bodyscale
deviceWindowShade	oic.d.blind
deviceThermometer	oic.d.bodythermometer

487 **7 Resource to oneM2M Module Class Equivalence**

488 **7.1 Introduction**

489 This clause lists the complete set of applicable oneM2M Module Classes and provides the  
490 equivalent OCF Resource Type(s) to which the Module Classes map.

491 **7.2 oneM2M Module Classes to OCF Resources**

492 Table 2 captures the equivalency mapping between oneM2M defined Module Classes and OCF  
493 defined Resource Types (see ISO/IEC 30118-4:2019). Detailed Property by Property mappings  
494 are provided in clause 8.

495 **Table 2 – oneM2M Module Classes to OCF Resource Type Mapping**

oneM2M Module Class	OCF Resource Type
3Dprinter	oic.r.3dprinter
acousticsensor	oic.r.soundpressure
airconjobmode	oic.r.operational.state
airflow	oic.r.airflow
airpurifierjobmode	oic.r.operational.state
airqualitysensor	oic.r.airquality oic.r.switch.binary oic.r.humidity
alarmspeaker	oic.r.audiovolume oic.r.switch.binary oic.r.light.dimming
audioVolume	oic.r.audio
autodocumentfeeder	oic.r.operational.state
battery	oic.r.energy.battery
binaryswitch	oic.r.swtich.binary
boiler	oic.r.sensor
brewing	oic.r.brewing
brightness	oic.r.light.brightness
clock	oic.r.clock

clothesdryerjobmode	oic.r.operational.state
colour	oic.r.colour
coloursaturation	oic.r.colour.saturation
credentials	oic.r.userinfo
dehumidiiferjobmode	oic.r.operational.state
doorStatus	oic.r.door
electricvehicleconnector	oic.r.vehicle.connector
energyconsumption	oic.r.energy.electrical oic.r.energy.consumption
energygeneration	oic.r.energy.generation
filterinfo	oic.r.consumable oic.r.sensor
foaming	oic.r.foaming
grinder	oic.r.grinder oic.r.switch.binary
heatingzone	oic.r.heatingzone
height	oic.r.height
hotwatersupply	oic.r.switch.binary oic.r.sensor
impactsensor	oic.r.impactsensor
keepwarm	oic.r.time.period
Keypad	oic.r.keypadchar
liquidlevel	oic.r.liquid.level
liquidremaining	oic.r.liquid.level
lock	oic.r.lock

motionSensor	oic.r.sensor.motion oic.r.sensor.props
openlevel	oic.r.openlevel
operationmode	oic.r.switch.binary
overcurrentsensor	oic.r.time.period oic.r.sensor
powersave	oic.r.switch.binary
printqueue	oic.r.printer.queue
pushbutton	oic.r.button
refrigeration	oic.r.refrigeration
relativeHumidity	oic.r.humidity
robotcleanerjobmode	oic.r.operational.state
steamclosetjobmode	oic.r.operational.state
temperature	oic.r.temperature
uvsensor	oic.r.sensor.radiation.uv
watersensor	oic.r.sensor.water
weight	oic.r.weight

496

## 497 **8 Detailed Mapping APIs**

### 498 **8.1 Introduction**

499 This clause provides an API and mapping description that aligns with the Derived Modelling syntax  
500 described in Derived Models for Interoperability for all Module Classes and Resources that are  
501 within scope.

502 The derived model definitions presented in clause 8 are formatted for readability, and so may  
503 appear to have extra line breaks.

### 504 **8.2 3D Printer**

#### 505 **8.2.1 Derived model**

506 The derived model: "onem2m.m.3Dprinter".

507 **8.2.2 Property definition**

508 Table 3 provides the detailed per Property mapping for "onem2m.m.3Dprinter".

509 **Table 3 – The property mapping for "onem2m.3Dprinter".**

oneM2M Property name	OCF Resource	To OCF	From OCF
memorySize	oic.r.3dprinter	oic.r.3dprinter.memorysize = memorySize	memorySize = oic.r.3dprinter.memorysize
printType	oic.r.3dprinter	oic.r.3dprinter.3dprinttype = printType	printType = oic.r.3dprinter.3dprinttype
printSizeX	oic.r.3dprinter	oic.r.3dprinter.printsizex = printSizeX	printSizeX = oic.r.3dprinter.printsizex
printSizeZ	oic.r.3dprinter	oic.r.3dprinter.printsizez = printSizeZ	printSizeZ = oic.r.3dprinter.printsizez
network	oic.r.3dprinter	oic.r.3dprinter.wanconnected = network	network = oic.r.3dprinter.wanconnected
printSizeY	oic.r.3dprinter	oic.r.3dprinter.printsizey = printSizeY	printSizeY = oic.r.3dprinter.printsizey

510 Table 4 provides the details of the Properties that are part of "onem2m.m.3Dprinter".

511 **Table 4 – The properties of "onem2m.3Dprinter".**

oneM2M name	Property	Type	Required	Description
memorySize		number	yes	Memory Size
printType		string	yes	3D Printer Type
printSizeX		number	yes	Print Size X
printSizeZ		number	yes	Print Size Z
network		boolean	yes	WAN Connected
printSizeY		number	yes	Print Size Y

512 **8.2.3 Derived model definition**

513 {  
 514 "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.3Dprinter.json#",  
 515 "\$schema": "http://json-schema.org/draft-04/schema#",  
 516 "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",

```

517 "title": "3D Printer",
518 "definitions": {
519   "onem2m.m.3Dprinter": {
520     "type": "object",
521     "properties": {
522       "printType": {
523         "type": "string",
524         "description": "3D Printer Type",
525         "x-ocf-conversion": {
526           "x-ocf-alias": "oic.r.3dprinter",
527           "x-to-ocf": [
528             "oic.r.3dprinter.3dprinttype = printType"
529           ],
530           "x-from-ocf": [
531             "printType = oic.r.3dprinter.3dprinttype"
532           ]
533         }
534       },
535       "printSizeX": {
536         "type": "number",
537         "description": "Print Size X",
538         "x-ocf-conversion": {
539           "x-ocf-alias": "oic.r.3dprinter",
540           "x-to-ocf": [
541             "oic.r.3dprinter.printsizeX = printSizeX"
542           ],
543           "x-from-ocf": [
544             "printSizeX = oic.r.3dprinter.printsizeX"
545           ]
546         }
547       },
548       "printSizeY": {
549         "type": "number",
550         "description": "Print Size Y",
551         "x-ocf-conversion": {
552           "x-ocf-alias": "oic.r.3dprinter",
553           "x-to-ocf": [
554             "oic.r.3dprinter.printsizeY = printSizeY"
555           ],
556           "x-from-ocf": [
557             "printSizeY = oic.r.3dprinter.printsizeY"
558           ]
559         }
560       },
561       "printSizeZ": {
562         "type": "number",
563         "description": "Print Size Z",
564         "x-ocf-conversion": {
565           "x-ocf-alias": "oic.r.3dprinter",
566           "x-to-ocf": [
567             "oic.r.3dprinter.printsizeZ = printSizeZ"
568           ],
569           "x-from-ocf": [
570             "printSizeZ = oic.r.3dprinter.printsizeZ"
571           ]
572         }
573       },
574       "network": {
575         "type": "boolean",
576         "description": "WAN Connected",
577         "x-ocf-conversion": {
578           "x-ocf-alias": "oic.r.3dprinter",
579           "x-to-ocf": [
580             "oic.r.3dprinter.wanconnected = network"
581           ],
582           "x-from-ocf": [
583             "network = oic.r.3dprinter.wanconnected"
584           ]
585         }
586       },
587       "memorySize": {

```

```

588     "type": "number",
589     "description": "Memory Size",
590     "x-ocf-conversion": {
591       "x-ocf-alias": "oic.r.3dprinter",
592       "x-to-ocf": [
593         "oic.r.3dprinter.memorysize = memorySize"
594       ],
595       "x-from-ocf": [
596         "memorySize = oic.r.3dprinter.memorysize"
597       ]
598     }
599   }
600 }
601 }
602 },
603 "type": "object",
604 "allOf": [
605   {"$ref": "#/definitions/onem2m.m.3Dprinter"}
606 ],
607 "required": [ "printType", "printSizeX", "printSizeY", "printSizeZ", "network", "memorySize" ]
608 }

```

### 609 8.3 Acoustic Sensor

#### 610 8.3.1 Derived model

611 The derived model: "onem2m.m.acousticsensor".

#### 612 8.3.2 Property definition

613 Table 5 provides the detailed per Property mapping for "onem2m.m.acousticsensor".

614 **Table 5 – The property mapping for "onem2m.m.acousticsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
loudness	oic.r.soundpressure	oic.r.soundpressure.dba = loudness	loudness = oic.r.soundpressure.dba
acousticStatus	oic.r.soundpressure	oic.r.soundpressure.percentage = acousticStatus	acousticStatus = oic.r.soundpressure.percentage

615 Table 6 provides the details of the Properties that are part of "onem2m.m.acousticsensor".

616 **Table 6 – The properties of "onem2m.m.acousticsensor".**

oneM2M Property name	Type	Required	Description
loudness	number	yes	The common unit of the sound pressure in dBa.
acousticStatus	integer	no	The rounded percentage of the current sound pressure as compared

			to the sensitivity range of the sensor. The acousticStatus indicates as follows: (0) No sound ~ (100) Most noisy.
--	--	--	---

617 **8.3.3 Derived model definition**

```

618 {
619   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.acousticsensor.json#",
620   "$schema": "http://json-schema.org/draft-04/schema#",
621   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
622   "title": "Acoustic Sensor",
623   "definitions": {
624     "onem2m.m.acousticsensor": {
625       "type": "object",
626       "properties": {
627         "loudness": {
628           "type": "number",
629           "description": "The common unit of the sound pressure in dBa.",
630           "x-ocf-conversion": {
631             "x-ocf-alias": "oic.r.soundpressure",
632             "x-to-ocf": [
633               "oic.r.soundpressure.dba = loudness"
634             ],
635             "x-from-ocf": [
636               "loudness = oic.r.soundpressure.dba"
637             ]
638           },
639         "acousticStatus": {
640           "type": "integer",
641           "description": "The rounded percentage of the current sound pressure as compared to the
642 sensitivity range of the sensor. The acousticStatus indicates as follows: (0) No sound ~ (100) Most
643 noisy.",
644           "x-ocf-conversion": {
645             "x-ocf-alias": "oic.r.soundpressure",
646             "x-to-ocf": [
647               "oic.r.soundpressure.percentage = acousticStatus"
648             ],
649             "x-from-ocf": [
650               "acousticStatus = oic.r.soundpressure.percentage"
651             ]
652           },
653         }
654       }
655     }
656   },
657   "type": "object",
658   "allOf": [
659     { "$ref": "#/definitions/onem2m.m.acousticsensor" }
660   ],
661   "required": [ "loudness" ]
662 }
663
664

```

665 **8.4 AirCon Job Mode**

666 **8.4.1 Derived model**

667 The derived model: "onem2m.m.airconjobmode".

668 **8.4.2 Property definition**

669 Table 7 provides the detailed per Property mapping for "onem2m.m.airconjobmode".

Table 7 – The property mapping for "onem2m.airconjobmode".

oneM2M Property name	OCF Resource	To OCF	From OCF
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre> jobModes[1] = 1jobModes[2] = 2jobModes[3] = 3jobModes[4] = 4jobModes[5] = 5jobModes[6] = 6jobModes[7] = 7jobModes[8] = 8 </pre>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value <pre> if (oic.r.operational.state.currentJobState == "cooling" ) { currentJobModeName = "cool"; } if (oic.r.operational.state.currentJobState == "airDry" ) { currentJobModeName = "airDry"; } if (oic.r.operational.state.currentJobState == "fan" ) { currentJobModeName = "fan"; } if (oic.r.operational.state.currentJobState == "artificialintelligence" ) { currentJobModeName = "AI"; } if (oic.r.operational.state.currentJobState == "heating" ) { currentJobModeName = "heat"; } if (oic.r.operational.state.currentJobState == "cleaning" ) { currentJobModeName = "airClean"; } if (oic.r.operational.state.currentJobState == "auto" ) { currentJobModeName = "ACO"; } if (oic.r.operational.state.currentJobState == "aroma" ) { currentJobModeName = "aroma"; } else </pre>

			<pre>{ currentJobModeName = ""; }</pre>
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre>if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "cooling"; } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "airDry"; } if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "fan"; } if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == "artificialintelligence"; } if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState == "heating"; } if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState == "cleaning"; } if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState == "auto"; } if ( currentJobMode == 8 ) { oic.r.operational.state.currentJobState == "aroma"; } else { oic.r.operational.state.currentJobState == "unknown"; }</pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre>if (oic.r.operational.state.currentJobState == "cooling" ) { currentJobMode = 1; } if (oic.r.operational.state.currentJobState == "airDry" ) { currentJobMode = 2; } if (oic.r.operational.state.currentJobState == "fan" ) { currentJobMode = 3; } if (oic.r.operational.state.currentJobState == "artificialintelligence" ) { currentJobMode = 4; } if (oic.r.operational.state.currentJobState == "heating" ) { currentJobMode = 5; } if (oic.r.operational.state.currentJobState == "cleaning" ) { currentJobMode = 6; } if (oic.r.operational.state.currentJobState == "auto" ) { currentJobMode = 7; } if (oic.r.operational.state.currentJobState == "aroma" ) { currentJobMode = 8; } else { currentJobMode = 0; }</pre>

671 Table 8 provides the details of the Properties that are part of "onem2m.m.airconjobmode".

672

**Table 8 – The properties of "onem2m.airconjobmode".**

oneM2M name	Property	Type	Required	Description
jobModes		array	yes	List of possible job states the device supports
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.

currentJobMode	integer	yes	Currently active job mode.
----------------	---------	-----	----------------------------

### 673 8.4.3 Derived model definition

```

674 {
675   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airconjobmode.json#",
676   "$schema": "http://json-schema.org/draft-04/schema#",
677   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
678   "title": "AirCon Job Mode",
679   "definitions": {
680     "onem2m.m.airconjobmode": {
681       "type": "object",
682       "properties": {
683         "currentJobMode": {
684           "type": "integer",
685           "description": "Currently active job mode.",
686           "x-ocf-conversion": {
687             "x-ocf-alias": "oic.r.operational.state",
688             "x-to-ocf": [
689               "Need to translate between the oneM2M integer value and the OCF operational state
690 enumerated string",
691               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
692 \"cooling\"; }",
693               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
694 \"airDry\"; }",
695               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == \"fan\"; }",
696               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
697 \"artificialintelligence\"; }",
698               "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
699 \"heating\"; }",
700               "if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==
701 \"cleaning\"; }",
702               "if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState ==
703 \"auto\"; }",
704               "if ( currentJobMode == 8 ) { oic.r.operational.state.currentJobState ==
705 \"aroma\"; }",
706               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
707             ],
708             "x-from-ocf": [
709               "Need to translate between the OCF operational state enumerated string and the oneM2M
710 integer value",
711               "if ( oic.r.operational.state.currentJobState == \"cooling\" ) { currentJobMode =
712 1; }",
713               "if ( oic.r.operational.state.currentJobState == \"airDry\" ) { currentJobMode =
714 2; }",
715               "if ( oic.r.operational.state.currentJobState == \"fan\" { currentJobMode = 3; }",
716               "if ( oic.r.operational.state.currentJobState == \"artificialintelligence\" )
717 { currentJobMode = 4; }",
718               "if ( oic.r.operational.state.currentJobState == \"heating\" ) { currentJobMode =
719 5; }",
720               "if ( oic.r.operational.state.currentJobState == \"cleaning\" ) { currentJobMode =
721 6; }",
722               "if ( oic.r.operational.state.currentJobState == \"auto\" ) { currentJobMode = 7; }",
723               "if ( oic.r.operational.state.currentJobState == \"aroma\" ) { currentJobMode = 8; }",
724               "else { currentJobMode = 0; }"
725             ]
726           }
727         },
728         "currentJobModeName": {
729           "type": "string",
730           "description": "Name of current job mode in string. This can be used when currentJobMode
731 is vendor-specific.",
732           "x-ocf-conversion": {
733             "x-ocf-alias": "oic.r.operational.state",
734             "x-to-ocf": [
735               "This value does not exist in OCF as it is already accommodated in the currentJobMode
736 property."
737             ],

```

```

738         "x-from-ocf": [
739             "Need to translate between the OCF operational state enumerated string and the oneM2M
740 string value",
741             "if (oic.r.operational.state.currentJobState == \"cooling\") { currentJobModeName =
742 \"cool\"; }",
743             "if (oic.r.operational.state.currentJobState == \"airDry\") { currentJobModeName =
744 \"airDry\"; }",
745             "if (oic.r.operational.state.currentJobState == \"fan\") { currentJobModeName =
746 \"fan\"; }",
747             "if (oic.r.operational.state.currentJobState == \"artificialintelligence\")
748 { currentJobModeName = \"AI\"; }",
749             "if (oic.r.operational.state.currentJobState == \"heating\") { currentJobModeName =
750 \"heat\"; }",
751             "if (oic.r.operational.state.currentJobState == \"cleaning\") { currentJobModeName =
752 \"airClean\"; }",
753             "if (oic.r.operational.state.currentJobState == \"auto\") { currentJobModeName =
754 \"ACO\"; }",
755             "if (oic.r.operational.state.currentJobState == \"aroma\") { currentJobModeName =
756 \"aroma\"; }",
757             "else { currentJobModeName = \"\"; }"
758         ]
759     },
760     "jobModes": {
761         "type": "array",
762         "description": "List of possible job states the device supports",
763         "x-ocf-conversion": {
764             "x-ocf-alias": "oic.r.operational.state",
765             "x-to-ocf": [
766                 "This does not exist in OCF as all possible operational states are available."
767             ],
768             "x-from-ocf": [
769                 "This is an array of integers in oneM2M defined by the current version of the
770 specification as follows:",
771                 "jobModes[1] = 1",
772                 "jobModes[2] = 2",
773                 "jobModes[3] = 3",
774                 "jobModes[4] = 4",
775                 "jobModes[5] = 5",
776                 "jobModes[6] = 6",
777                 "jobModes[7] = 7",
778                 "jobModes[8] = 8"
779             ]
780         }
781     }
782 }
783 }
784 }
785 },
786 "type": "object",
787 "allOf": [
788     {"$ref": "#/definitions/onem2m.m.airconjobmode"}
789 ],
790 "required": [ "currentJobMode", "jobModes" ]
791 }

```

## 792 8.5 Airflow

### 793 8.5.1 Derived model

794 The derived model: "onem2m.m.airflow".

### 795 8.5.2 Property definition

796 Table 9 provides the detailed per Property mapping for "onem2m.m.airflow".

797 **Table 9 – The property mapping for "onem2m.airflow".**

oneM2M Property name	OCF Resource	To OCF	From OCF

minSpeed	oic.r.airflow	range[0] = minSpeed	minSpeed = range[0] otherwise: minSpeed = 0
supportedVerticalDirection	oic.r.airflow	supporteddirections = supportedVerticalDirection	supportedVerticalDirection = supporteddirections
maxSpeed	oic.r.airflow	range[1] = maxSpeed	maxSpeed = range[1] otherwise: maxSpeed = 100
horizontalDirection	oic.r.airflow	direction = horizontalDirection	horizontalDirection = direction
autoMode	oic.r.airflow	if autoMode = true, ocf.automode = On if autoMode = false, ocf.automode = Off comment: is is correct way to map boolean to enum?	if ocf.automode = On, autoMode = true if ocf.automode = Off, autoMode = false
speed	oic.r.airflow	ocf.speed = speed	speed = ocf.speed
verticalDirection	oic.r.airflow	direction = verticalDirection	verticalDirection = direction comment: Is 1-to-1 mapping possible from string to enum? what if enum doesn't contain the converted string from OCF?
supportedhorizontalDirection	oic.r.airflow	supporteddirections = supportedhorizontalDirection	supportedhorizontalDirection = supporteddirections

798 Table 10 provides the details of the Properties that are part of "onem2m.m.airflow".

799 **Table 10 – The properties of "onem2m.airflow".**

oneM2M Property name	Type	Required	Description
minSpeed	integer	no	Min value for the speed level. If not present, the default is 0.
supportedVerticalDirection	array	no	List of supported vertical direction.

maxSpeed	integer	no	Max value for the speed level. If not present, the default is 100.
horizontalDirection		no	The horizontal directionality of the air flow.
autoMode	boolean	no	Status of the automode feature. If on speed is set by the device.
speed	integer	yes	current speed level in the range of [minSpeed, maxSpeed]
verticalDirection		no	The vertical directionality of the air flow.
supportedhorizontalDirection	array	no	List of supported horizontal direction.

800 **8.5.3 Derived model definition**

```

801 {
802   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airflow.json#",
803   "$schema": "http://json-schema.org/draft-04/schema#",
804   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
805   "title": "Airflow",
806   "definitions": {
807     "onem2m.m.airflow": {
808       "type": "object",
809       "properties": {
810         "speed": {
811           "type": "integer",
812           "description": "current speed level in the range of [minSpeed, maxSpeed]",
813           "x-ocf-conversion": {
814             "x-ocf-alias": "oic.r.airflow",
815             "x-to-ocf": [
816               "ocf.speed = speed"
817             ],
818             "x-from-ocf": [
819               "speed = ocf.speed"
820             ]
821           }
822         },
823         "minSpeed": {
824           "type": "integer",
825           "description": "Min value for the speed level. If not present, the default is 0.",
826           "x-ocf-conversion": {
827             "x-ocf-alias": "oic.r.airflow",
828             "x-to-ocf": [
829               "range[0] = minSpeed"
830             ],
831             "x-from-ocf": [
832               "minSpeed = range[0]",
833               "otherwise: minSpeed = 0"

```

```

834     ]
835   }
836 },
837   "maxSpeed": {
838     "type": "integer",
839     "description": "Max value for the speed level. If not present, the default is 100.",
840     "x-ocf-conversion": {
841       "x-ocf-alias": "oic.r.airflow",
842       "x-to-ocf": [
843         "range[1] = maxSpeed"
844       ],
845       "x-from-ocf": [
846         "maxSpeed = range[1]",
847         "otherwise: maxSpeed = 100"
848       ]
849     }
850 },
851   "verticalDirection": {
852     "enum": ["auto", "center", "up", "down"],
853     "description": "The vertical directionality of the air flow.",
854     "x-ocf-conversion": {
855       "x-ocf-alias": "oic.r.airflow",
856       "x-to-ocf": [
857         "direction = verticalDirection"
858       ],
859       "x-from-ocf": [
860         "verticalDirection = direction",
861         "_comment: Is 1-to-1 mapping possible from string to enum? what if
862 enum doesn't contain the converted string from OCF?"
863       ]
864     }
865 },
866   "supportedVerticalDirection": {
867     "type": "array",
868     "items": {
869       "enum": ["auto", "center", "up", "down"]
870     },
871     "description": "List of supported vertical direction.",
872     "readOnly": true,
873     "x-ocf-conversion": {
874       "x-ocf-alias": "oic.r.airflow",
875       "x-to-ocf": [
876         "supporteddirections = supportedVerticalDirection"
877       ],
878       "x-from-ocf": [
879         "supportedVerticalDirection = supporteddirections"
880       ]
881     }
882 },
883   "horizontalDirection": {
884     "enum": ["auto", "center", "left", "right"],
885     "description": "The horizontal directionality of the air flow.",
886     "x-ocf-conversion": {
887       "x-ocf-alias": "oic.r.airflow",
888       "x-to-ocf": [
889         "direction = horizontalDirection"
890       ],
891       "x-from-ocf": [
892         "horizontalDirection = direction"
893       ]
894     }
895 },
896   "supportedHorizontalDirection": {
897     "type": "array",
898     "items": {
899       "enum": ["auto", "center", "left", "right"]
900     },
901     "description": "List of supported horizontal direction.",
902     "readOnly": true,
903     "x-ocf-conversion": {
904       "x-ocf-alias": "oic.r.airflow",

```

```

905     "x-to-ocf": [
906       "supporteddirections = supportedhorizontalDirection"
907     ],
908     "x-from-ocf": [
909       "supportedhorizontalDirection = supporteddirections"
910     ]
911   },
912   },
913   "autoMode": {
914     "type": "boolean",
915     "description": "Status of the automode feature. If on speed is set by the device.",
916     "x-ocf-conversion": {
917       "x-ocf-alias": "oic.r.airflow",
918       "x-to-ocf": [
919         "if autoMode = true, ocf.automode = On",
920         "if autoMode = fals, ocf.automode = Off",
921         "_comment: is is correct way to map boolean to enum?"
922       ],
923       "x-from-ocf": [
924         "if ocf.automode = On, autoMode = true",
925         "if ocf.automode = Off, autoMode = false"
926       ]
927     }
928   }
929 }
930 }
931 },
932 "type": "object",
933 "allOf": [
934   {"$ref": "#/definitions/onem2m.m.airflow"}
935 ],
936 "required": [ "speed" ]
937 }
938

```

## 939 8.6 Air Purifier Job Mode

### 940 8.6.1 Derived model

941 The derived model: "onem2m.m.airpurifierjobmode".

### 942 8.6.2 Property definition

943 Table 11 provides the detailed per Property mapping for "onem2m.m.airpurifierjobmode".

944 **Table 11 – The property mapping for "onem2m.m.airpurifierjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre> if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "normal"; } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "sleeping"; } if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "silent"; } if ( currentJobMode == 4 ) </pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre> if ( oic.r.operational.state.currentJobState == "normal" ) { currentJobMode = 1; } if ( oic.r.operational.state.currentJobState == "sleeping" ) { currentJobMode = 2; } if ( oic.r.operational.state.currentJobState == "silent" ) { currentJobMode = 3; } if ( oic.r.operational.state.currentJobState == "wet" ) </pre>

		<pre>{ oic.r.operational.state.currentJobState == "wet"; }if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState == "circulating"; }if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState == "dual"; }if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState == "auto"; }else { oic.r.operational.state.currentJobState == "unknown"; }</pre>	<pre>{ currentJobMode = 4; }if (oic.r.operational.state.currentJobState == "circulating" ) { currentJobMode = 5; }if (oic.r.operational.state.currentJobState == "dual" ) { currentJobMode = 6; }if (oic.r.operational.state.currentJobState == "auto" ) { currentJobMode = 7; }else { currentJobMode = 0; }</pre>
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre>jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4 jobModes[5] = 5 jobModes[6] = 6 jobModes[7] = 7</pre>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value <pre>if (oic.r.operational.state.currentJobState == "normal" ) { currentJobModeName = "normalClean"; }if (oic.r.operational.state.currentJobState == "sleeping" ) { currentJobModeName = "sleep"; }if (oic.r.operational.state.currentJobState == "silent" ) { currentJobModeName = "silent"; }if (oic.r.operational.state.currentJobState == "wet" ) { currentJobModeName = "wet"; }if (oic.r.operational.state.currentJobState == "circulating" ) { currentJobModeName = "circulate"; }if (oic.r.operational.state.currentJobState == "dual" ) { currentJobModeName =</pre>

			<pre>"dual";           }if (oic.r.operational.state.curr entJobState == "auto" ) { currentJobModeName = "auto";           }else { currentJobModeName = ""; }</pre>
--	--	--	--

945 Table 12 provides the details of the Properties that are part of "onem2m.m.airpurifierjobmode".

946 **Table 12 – The properties of "onem2m.m.airpurifierjobmode".**

oneM2M name	Property	Type	Required	Description
currentJobMode		integer	yes	Currently active job mode.
jobModes		array	yes	List of possible job states the device supports
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.

947 **8.6.3 Derived model definition**

```
948 {
949   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airpurifierjobmode.json#",
950   "$schema": "http://json-schema.org/draft-04/schema#",
951   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
952   "title": "Air Purifier Job Mode",
953   "definitions": {
954     "onem2m.m.airpurifierjobmode": {
955       "type": "object",
956       "properties": {
957         "currentJobMode": {
958           "type": "integer",
959           "description": "Currently active job mode.",
960           "x-ocf-conversion": {
961             "x-ocf-alias": "oic.r.operational.state",
962             "x-to-ocf": [
963               "Need to translate between the oneM2M integer value and the OCF operational state
964               enumerated string",
965               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
966               \"normal\"; }",
967               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
968               \"sleeping\"; }",
969               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
970               \"silent\"; }",
971               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == \"wet\"; }",
972               "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
973               \"circulating\"; }",
974               "if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==
975               \"dual\"; }",
976               "if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState ==
977               \"auto\"; }",
978               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
```

```

979         ],
980         "x-from-ocf": [
981             "Need to translate between the OCF operational state enumerated string and the oneM2M
982 integer value",
983             "if (oic.r.operational.state.currentJobState == \"normal\" ) { currentJobMode =
984 1; }",
985             "if (oic.r.operational.state.currentJobState == \"sleeping\" ) { currentJobMode =
986 2; }",
987             "if (oic.r.operational.state.currentJobState == \"silent\" { currentJobMode = 3; }",
988             "if (oic.r.operational.state.currentJobState == \"wet\" ) { currentJobMode = 4; }",
989             "if (oic.r.operational.state.currentJobState == \"circulating\" ) { currentJobMode =
990 5; }",
991             "if (oic.r.operational.state.currentJobState == \"dual\" ) { currentJobMode = 6; }",
992             "if (oic.r.operational.state.currentJobState == \"auto\" ) { currentJobMode = 7; }",
993             "else { currentJobMode = 0; }"
994         ]
995     },
996 },
997     "currentJobModeName": {
998         "type": "string",
999         "description": "Name of current job mode in string. This can be used when currentJobMode
1000 is vendor-specific.",
1001         "x-ocf-conversion": {
1002             "x-ocf-alias": "oic.r.operational.state",
1003             "x-to-ocf": [
1004                 "This value does not exist in OCF as it is already accommodated in the currentJobMode
1005 property."
1006             ],
1007             "x-from-ocf": [
1008                 "Need to translate between the OCF operational state enumerated string and the oneM2M
1009 string value",
1010                 "if (oic.r.operational.state.currentJobState == \"normal\" ) { currentJobModeName =
1011 \"normalClean\"; }",
1012                 "if (oic.r.operational.state.currentJobState == \"sleeping\" ) { currentJobModeName =
1013 \"sleep\"; }",
1014                 "if (oic.r.operational.state.currentJobState == \"silent\" { currentJobModeName =
1015 \"silent\"; }",
1016                 "if (oic.r.operational.state.currentJobState == \"wet\" ) { currentJobModeName =
1017 \"wet\"; }",
1018                 "if (oic.r.operational.state.currentJobState == \"circulating\" )
1019 { currentJobModeName = \"circulate\"; }",
1020                 "if (oic.r.operational.state.currentJobState == \"dual\" ) { currentJobModeName =
1021 \"dual\"; }",
1022                 "if (oic.r.operational.state.currentJobState == \"auto\" ) { currentJobModeName =
1023 \"auto\"; }",
1024                 "else { currentJobModeName = \"\"; }"
1025             ]
1026         }
1027     },
1028     "jobModes": {
1029         "type": "array",
1030         "description": "List of possible job states the device supports",
1031         "x-ocf-conversion": {
1032             "x-ocf-alias": "oic.r.operational.state",
1033             "x-to-ocf": [
1034                 "This does not exist in OCF as all possible operational states are available."
1035             ],
1036             "x-from-ocf": [
1037                 "This is an array of integers in oneM2M defined by the current version of the
1038 specification as follows:",
1039                 "jobModes[1] = 1",
1040                 "jobModes[2] = 2",
1041                 "jobModes[3] = 3",
1042                 "jobModes[4] = 4",
1043                 "jobModes[5] = 5",
1044                 "jobModes[6] = 6",
1045                 "jobModes[7] = 7"
1046             ]
1047         }
1048     }
1049 }

```

```

1050     }
1051   },
1052   "type": "object",
1053   "allOf": [
1054     { "$ref": "#/definitions/onem2m.m.airconjobmode" }
1055   ],
1056   "required": [ "currentJobMode", "jobModes" ]
1057 }

```

1058 **8.7 Air Quality Sensor**

1059 **8.7.1 Derived model**

1060 The derived model: "onem2m.m.airqualitysensor".

1061 **8.7.2 Property definition**

1062 Table 13 provides the detailed per Property mapping for "onem2m.m.airqualitysensor".

1063 **Table 13 – The property mapping for "onem2m.airqualitysensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
sensorOdor	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorOdor oic.r.airquality.contaminanttype = "Odor" oic.r.airquality.valuetype = "Measured"	sensorOdor = oic.r.airquality.contaminantvalue
VOC	oic.r.airquality	oic.r.airquality.contaminantvalue = VOC oic.r.airquality.contaminanttype = "VOC" oic.r.airquality.valuetype = "Measured"	VOC = oic.r.airquality.contaminantvalue
monitoringEnabled	oic.r.switch.binary	if monitoringEnabled == 0 oic.r.switch.binary.value = false if monitoringEnabled == 1 oic.r.switch.binary.value = true	if oic.r.switch.binary.value == false monitoringEnabled = 0 if oic.r.switch.binary.value == true monitoringEnabled = 1
sensorHumidity	oic.r.humidity	oic.r.humidity.humidity = sensorHumidity	sensorHumidity = oic.r.humidity.humidity
sensorPM2	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorPM2 oic.r.airquality.contaminanttype =	sensorPM2 = oic.r.airquality.contaminantvalue

		"PM2.5"oic.r.airquality.valuetype = "Measured"	
sensorPM10	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorPM10oic.r.airquality.contaminanttype = "PM10"oic.r.airquality.valuetype = "Measured"	sensorPM10 = oic.r.airquality.contaminantvalue
CO	oic.r.airquality	oic.r.airquality.contaminantvalue = COoic.r.airquality.contaminanttype = "CO"oic.r.airquality.valuetype = "Measured"	CO = oic.r.airquality.contaminantvalue
CH2O	oic.r.airquality	oic.r.airquality.contaminantvalue = CH2Ooic.r.airquality.contaminanttype = "CH2O"oic.r.airquality.valuetype = "Measured"	CH2O = oic.r.airquality.contaminantvalue
CO2	oic.r.airquality	oic.r.airquality.contaminantvalue = CO2oic.r.airquality.contaminanttype = "CO2"oic.r.airquality.valuetype = "Measured"	CO2 = oic.r.airquality.contaminantvalue
sensorPM1	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorPM1oic.r.airquality.contaminanttype = "PM1"oic.r.airquality.valuetype = "Measured"	sensorPM1 = oic.r.airquality.contaminantvalue

1064 Table 14 provides the details of the Properties that are part of "onem2m.m.airqualitysensor".

1065

**Table 14 – The properties of "onem2m.airqualitysensor".**

oneM2M name	Property	Type	Required	Description
sensorOdor		integer	no	Concentration of odor that reflects air pollution. Minimum value is 0, and maximum is 1000.
VOC		integer	no	This value indicates VOC (Volatile Organic

			Compounds) in ppm (parts per million)
monitoringEnabled	boolean	no	1 allows monitoring this resource whereas 0 does not.
sensorHumidity	integer	no	Measured humidity. Minimum value is 0, and maximum is 100.
sensorPM2	integer	no	Concentration of Particle Matter under 2.5um. Minimum value is 0, and maximum is 1000.
sensorPM10	integer	no	Concentration of Particle Matter under 10um. Minimum value is 0, and maximum is 1000.
CO	integer	no	This value indicates CO in ppm (parts per million)
CH2O	integer	no	This value indicates CH2O in ppm (parts per million)
CO2	integer	no	This value indicates CO2 in ppm (parts per million)
sensorPM1	integer	no	Concentration of Particle Matter under 1um. Minimum value is 0, and maximum is 1000.

1066 **8.7.3 Derived model definition**

```

1067 {
1068   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airqualitysensor.json#",
1069   "$schema": "http://json-schema.org/draft-04/schema#",
1070   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1071   "title": "Air Quality Sensor",
1072   "definitions": {
1073     "onem2m.m.airqualitysensor": {
1074       "type": "object",
1075       "properties": {
1076         "sensorPM1": {
1077           "type": "integer",
1078           "description": "Concentration of Particle Matter under 1um. Minimum value is 0, and
1079 maximum is 1000.",

```

```

1080         "x-ocf-conversion": {
1081             "x-ocf-alias": "oic.r.airquality",
1082             "x-to-ocf": [
1083                 "oic.r.airquality.contaminantvalue = sensorPM1",
1084                 "oic.r.airquality.contaminanttype = \"PM1\"",
1085                 "oic.r.airquality.valuetype = \"Measured\"",
1086             ],
1087             "x-from-ocf": [
1088                 "sensorPM1 = oic.r.airquality.contaminantvalue"
1089             ]
1090         },
1091     },
1092     "sensorPM2": {
1093         "type": "integer",
1094         "description": "Concentration of Particle Matter under 2.5um. Minimum value is 0, and
1095 maximum is 1000.",
1096         "x-ocf-conversion": {
1097             "x-ocf-alias": "oic.r.airquality",
1098             "x-to-ocf": [
1099                 "oic.r.airquality.contaminantvalue = sensorPM2",
1100                 "oic.r.airquality.contaminanttype = \"PM2.5\"",
1101                 "oic.r.airquality.valuetype = \"Measured\"",
1102             ],
1103             "x-from-ocf": [
1104                 "sensorPM2 = oic.r.airquality.contaminantvalue"
1105             ]
1106         },
1107     },
1108     "sensorPM10": {
1109         "type": "integer",
1110         "description": "Concentration of Particle Matter under 10um. Minimum value is 0, and
1111 maximum is 1000.",
1112         "x-ocf-conversion": {
1113             "x-ocf-alias": "oic.r.airquality",
1114             "x-to-ocf": [
1115                 "oic.r.airquality.contaminantvalue = sensorPM10",
1116                 "oic.r.airquality.contaminanttype = \"PM10\"",
1117                 "oic.r.airquality.valuetype = \"Measured\"",
1118             ],
1119             "x-from-ocf": [
1120                 "sensorPM10 = oic.r.airquality.contaminantvalue"
1121             ]
1122         },
1123     },
1124     "sensorOdor": {
1125         "type": "integer",
1126         "description": "Concentration of odor that reflects air pollution. Minimum value is 0,
1127 and maximum is 1000.",
1128         "x-ocf-conversion": {
1129             "x-ocf-alias": "oic.r.airquality",
1130             "x-to-ocf": [
1131                 "oic.r.airquality.contaminantvalue = sensorOdor",
1132                 "oic.r.airquality.contaminanttype = \"Odor\"",
1133                 "oic.r.airquality.valuetype = \"Measured\"",
1134             ],
1135             "x-from-ocf": [
1136                 "sensorOdor = oic.r.airquality.contaminantvalue"
1137             ]
1138         },
1139     },
1140     "sensorHumidity": {
1141         "type": "integer",
1142         "description": "Measured humidity. Minimum value is 0, and maximum is 100.",
1143         "x-ocf-conversion": {
1144             "x-ocf-alias": "oic.r.humidity",
1145             "x-to-ocf": [
1146                 "oic.r.humidity.humidity = sensorHumidity"
1147             ],
1148             "x-from-ocf": [
1149                 "sensorHumidity = oic.r.humidity.humidity"
1150             ]
1151         }
1152     }
1153 }

```

```

1151     }
1152   },
1153   "monitoringEnabled": {
1154     "type": "boolean",
1155     "description": "1 allows monitoring this resource whereas 0 does not.",
1156     "x-ocf-conversion": {
1157       "x-ocf-alias": "oic.r.switch.binary",
1158       "x-to-ocf": [
1159         "if monitoringEnabled == 0",
1160         "  oic.r.switch.binary.value = false",
1161         "if monitoringEnabled == 1",
1162         "  oic.r.switch.binary.value = true"
1163       ],
1164       "x-from-ocf": [
1165         "if oic.r.switch.binary.value == false",
1166         "  monitoringEnabled = 0",
1167         "if oic.r.switch.binary.value == true",
1168         "  monitoringEnabled = 1"
1169       ]
1170     }
1171   },
1172   "CO2": {
1173     "type": "integer",
1174     "description": "This value indicates CO2 in ppm (parts per million)",
1175     "x-ocf-conversion": {
1176       "x-ocf-alias": "oic.r.airquality",
1177       "x-to-ocf": [
1178         "oic.r.airquality.contaminantvalue = CO2",
1179         "oic.r.airquality.contaminanttype = \"CO2\"",
1180         "oic.r.airquality.valuetype = \"Measured\""
1181       ],
1182       "x-from-ocf": [
1183         "CO2 = oic.r.airquality.contaminantvalue"
1184       ]
1185     }
1186   },
1187   "CO": {
1188     "type": "integer",
1189     "description": "This value indicates CO in ppm (parts per million)",
1190     "x-ocf-conversion": {
1191       "x-ocf-alias": "oic.r.airquality",
1192       "x-to-ocf": [
1193         "oic.r.airquality.contaminantvalue = CO",
1194         "oic.r.airquality.contaminanttype = \"CO\"",
1195         "oic.r.airquality.valuetype = \"Measured\""
1196       ],
1197       "x-from-ocf": [
1198         "CO = oic.r.airquality.contaminantvalue"
1199       ]
1200     }
1201   },
1202   "CH2O": {
1203     "type": "integer",
1204     "description": "This value indicates CH2O in ppm (parts per million)",
1205     "x-ocf-conversion": {
1206       "x-ocf-alias": "oic.r.airquality",
1207       "x-to-ocf": [
1208         "oic.r.airquality.contaminantvalue = CH2O",
1209         "oic.r.airquality.contaminanttype = \"CH2O\"",
1210         "oic.r.airquality.valuetype = \"Measured\""
1211       ],
1212       "x-from-ocf": [
1213         "CH2O = oic.r.airquality.contaminantvalue"
1214       ]
1215     }
1216   },
1217   "VOC": {
1218     "type": "integer",
1219     "description": "This value indicates VOC (Volatile Organic Compounds) in ppm (parts per
1220 million)",
1221     "x-ocf-conversion": {

```

```

1222     "x-ocf-alias": "oic.r.airquality",
1223     "x-to-ocf": [
1224       "oic.r.airquality.contaminantvalue = VOC",
1225       "oic.r.airquality.contaminanttype = \"VOC\"",
1226       "oic.r.airquality.valuetype = \"Measured\""
1227     ],
1228     "x-from-ocf": [
1229       "VOC = oic.r.airquality.contaminantvalue"
1230     ]
1231   }
1232 }
1233 }
1234 }
1235 },
1236 "type": "object",
1237 "allOf": [
1238   {"$ref": "#/definitions/onem2m.m.airqualitysensor"}
1239 ],
1240 "required": [ ]
1241 }
1242

```

1243 **8.8 Alarm Speaker**

1244 **8.8.1 Derived model**

1245 The derived model: "onem2m.m.alarmspeaker".

1246 **8.8.2 Property definition**

1247 Table 15 provides the detailed per Property mapping for "onem2m.m.alarmspeaker".

1248 **Table 15 – The property mapping for "onem2m.m.alarmspeaker".**

oneM2M Property name	OCF Resource	To OCF	From OCF
alarmStatus	oic.r.switch.binary	oic.r.switch.binary.value = alarmStatus	alarmStatus = oic.r.switch.binary.value
tone	oic.r.audiovolume	oic.r.audio.volume = tone * 20	tone = oic.r.audio.volume / 20
Light	oic.r.light.dimming	oic.r.light.dimming = Light	Light = oic.r.light.dimming

1249 Table 16 provides the details of the Properties that are part of "onem2m.m.alarmspeaker".

1250 **Table 16 – The properties of "onem2m.m.alarmspeaker".**

oneM2M Property name	Type	Required	Description
alarmStatus	boolean	yes	true indicates the alarm start while false indicates the alarm stop.

tone	integer	no	Representing the tones of the alarm
Light	integer	no	Representing the lighting mode of the alarm.

1251 **8.8.3 Derived model definition**

```

1252 {
1253   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.alarmspeaker.json#",
1254   "$schema": "http://json-schema.org/draft-04/schema#",
1255   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1256   "title": "Alarm Speaker",
1257   "definitions": {
1258     "onem2m.m.alarmspeaker": {
1259       "type": "object",
1260       "properties": {
1261         "tone": {
1262           "type": "integer",
1263           "description": "Representing the tones of the alarm",
1264           "x-ocf-conversion": {
1265             "x-ocf-alias": "oic.r.audiovolume",
1266             "x-to-ocf": [
1267               "oic.r.audio.volume = tone * 20"
1268             ],
1269             "x-from-ocf": [
1270               "tone = oic.r.audio.volume / 20"
1271             ]
1272           }
1273         },
1274         "Light": {
1275           "type": "integer",
1276           "description": "Representing the lighting mode of the alarm.",
1277           "x-ocf-conversion": {
1278             "x-ocf-alias": "oic.r.light.dimming",
1279             "x-to-ocf": [
1280               "oic.r.light.dimming = Light"
1281             ],
1282             "x-from-ocf": [
1283               "Light = oic.r.light.dimming"
1284             ]
1285           }
1286         },
1287         "alarmStatus": {
1288           "type": "boolean",
1289           "description": "true indicates the alarm start while false indicates the alarm stop.",
1290           "x-ocf-conversion": {
1291             "x-ocf-alias": "oic.r.switch.binary",
1292             "x-to-ocf": [
1293               "oic.r.switch.binary.value = alarmStatus"
1294             ],
1295             "x-from-ocf": [
1296               "alarmStatus = oic.r.switch.binary.value"
1297             ]
1298           }
1299         }
1300       }
1301     }
1302   },
1303   "type": "object",
1304   "allOf": [
1305     {"$ref": "#/definitions/onem2m.m.airqualitysensor"}
1306   ],
1307   "required": [ "alarmStatus" ]
1308 }
1309

```

1310 **8.9 Audio Volume**

1311 **8.9.1 Derived model**

1312 The derived model: "onem2m.m.audioVolume".

1313 **8.9.2 Property definition**

1314 Table 17 provides the detailed per Property mapping for "onem2m.m.audioVolume".

1315 **Table 17 – The property mapping for "onem2m.audioVolume".**

oneM2M Property name	OCF Resource	To OCF	From OCF
muteEnabled	oic.r.audio	oic.r.audio.mute = muteEnabled	muteEnabled = oic.r.audio.mute
stepValue	oic.r.audio	oic.r.audio.step = stepValue	stepValue = oic.r.audio.step
maxValue	oic.r.audio	oic.r.audio.range[0] = 0 oic.r.audio.range[1] = maxValue	maxValue = oic.r.audio.range[1] otherwise: maxvalue = 100
volumePercentage	oic.r.audio	oic.r.audio.volume = volumePercentage	volumePercentage = oic.r.audio.volume

1316 Table 18 provides the details of the Properties that are part of "onem2m.m.audioVolume".

1317 **Table 18 – The properties of "onem2m.audioVolume".**

oneM2M Property name	Type	Required	Description
muteEnabled	boolean	yes	The current status of the mute enablement
stepValue	integer	no	Step value used by the 'UpVolume' and 'DownVolume' actions
maxValue	integer	no	Maximum value allowed for Volume. maxValue is 100 by default if 'maxValue' is not provided
volumePercentage	number	yes	The rounded percentage of the current volume

### 1318 8.9.3 Derived model definition

```
1319 {
1320   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.audioVolume.json#",
1321   "$schema": "http://json-schema.org/draft-04/schema#",
1322   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1323   "title": "Audio Volume",
1324   "definitions": {
1325     "onem2m.m.audioVolume": {
1326       "type": "object",
1327       "properties": {
1328         "volumePercentage": {
1329           "type": "number",
1330           "description": "The rounded percentage of the current volume",
1331           "x-ocf-conversion": {
1332             "x-ocf-alias": "oic.r.audio",
1333             "x-to-ocf": [
1334               "oic.r.audio.volume = volumePercentage"
1335             ],
1336             "x-from-ocf": [
1337               "volumePercentage = oic.r.audio.volume"
1338             ]
1339           }
1340         },
1341         "muteEnabled": {
1342           "type": "boolean",
1343           "description": "The current status of the mute enablement",
1344           "x-ocf-conversion": {
1345             "x-ocf-alias": "oic.r.audio",
1346             "x-to-ocf": [
1347               "oic.r.audio.mute = muteEnabled"
1348             ],
1349             "x-from-ocf": [
1350               "muteEnabled = oic.r.audio.mute"
1351             ]
1352           }
1353         },
1354         "stepValue": {
1355           "type": "integer",
1356           "description": "Step value used by the 'UpVolume' and 'DownVolume' actions",
1357           "x-ocf-conversion": {
1358             "x-ocf-alias": "oic.r.audio",
1359             "x-to-ocf": [
1360               "oic.r.audio.step = stepValue"
1361             ],
1362             "x-from-ocf": [
1363               "stepValue = oic.r.audio.step"
1364             ]
1365           }
1366         },
1367         "maxValue": {
1368           "type": "integer",
1369           "description": "Maximum value allowed for Volume. maxValue is 100 by default if
1370 'maxValue' is not provided",
1371           "x-ocf-conversion": {
1372             "x-ocf-alias": "oic.r.audio",
1373             "x-to-ocf": [
1374               "oic.r.audio.range[0] = 0",
1375               "oic.r.audio.range[1] = maxValue"
1376             ],
1377             "x-from-ocf": [
1378               "maxValue = oic.r.audio.range[1]",
1379               "otherwise: maxValue = 100"
1380             ]
1381           }
1382         }
1383       }
1384     }
1385   },
1386   "type": "object",
1387   "allOf": [
```

```

1388     {"$ref": "#/definitions/onem2m.m.audioVolume"}
1389     },
1390     "required": [ "volumePercentage", "muteEnabled" ]
1391 }

```

## 1392 8.10 Auto Document Feeder

### 1393 8.10.1 Derived model

1394 The derived model: "onem2m.m.autodocumentfeeder".

### 1395 8.10.2 Property definition

1396 Table 19 provides the detailed per Property mapping for "onem2m.m.autodocumentfeeder".

1397 **Table 19 – The property mapping for "onem2m.m.autodocumentfeeder".**

oneM2M Property name	OCF Resource	To OCF	From OCF
adfStates	oic.r.operational.state	This is an array of strings in OCF and an array of integers in oneM2M. For each element in the source array, do the assignment into the same position in the destination array. oic.r.operational.state.jobStates[i] = adfStates[i]	This is an array of strings in OCF and an array of integers in oneM2M. For each element in the source array, do the assignment into the same position in the destination array. adfStates[i] = oic.r.operational.state.jobStates[i]
currentAdfState	oic.r.operational.state	oic.r.operational.state.jobState = currentAdfState	currentAdfState = oic.r.operational.state.jobState

1398 Table 20 provides the details of the Properties that are part of "onem2m.m.autodocumentfeeder".

1399 **Table 20 – The properties of "onem2m.m.autodocumentfeeder".**

oneM2M name	Property	Type	Required	Description
adfStates		array	yes	List of possible adf states the device supports
currentAdfState		integer	yes	Currently active adf(auto document feeder) state.

### 1400 8.10.3 Derived model definition

```

1401 {
1402   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.autodocumentfeeder.json#",
1403   "$schema": "http://json-schema.org/draft-04/schema#",
1404   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1405   "title": "Auto Document Feeder",

```

```

1406 "definitions": {
1407   "onem2m.m.autodocumentfeeder": {
1408     "type": "object",
1409     "properties": {
1410       "currentAdfState": {
1411         "type": "integer",
1412         "description": "Currently active adf(auto document feeder) state.",
1413         "x-ocf-conversion": {
1414           "x-ocf-alias": "oic.r.operational.state",
1415           "x-to-ocf": [
1416             "oic.r.operational.state.jobState = currentAdfState"
1417           ],
1418           "x-from-ocf": [
1419             "currentAdfState = oic.r.operational.state.jobState"
1420           ]
1421         }
1422       },
1423       "adfStates": {
1424         "type": "array",
1425         "description": "List of possible adf states the device supports",
1426         "x-ocf-conversion": {
1427           "x-ocf-alias": "oic.r.operational.state",
1428           "x-to-ocf": [
1429             "This is an array of strings in OCF and an array of integers in oneM2M. For each
1430 element in the source array, do the assignment into the same position in the destination array.",
1431             "oic.r.operational.state.jobStates[i] = adfStates[i]"
1432           ],
1433           "x-from-ocf": [
1434             "This is an array of strings in OCF and an array of integers in oneM2M. For each
1435 element in the source array, do the assignment into the same position in the destination array.",
1436             "adfStates[i] = oic.r.operational.state.jobStates[i]"
1437           ]
1438         }
1439       }
1440     }
1441   },
1442 },
1443 "type": "object",
1444 "allOf": [
1445   {"$ref": "#/definitions/onem2m.m.autodocumentfeeder"}
1446 ],
1447 "required": [ "currentAdfState", "adfStates" ]
1448 }
1449

```

## 1450 8.11 Battery

### 1451 8.11.1 Derived model

1452 The derived model: "onem2m.m.battery".

### 1453 8.11.2 Property definition

1454 Table 21 provides the detailed per Property mapping for "onem2m.m.battery".

1455 **Table 21 – The property mapping for "onem2m.m.battery".**

oneM2M Property name	OCF Resource	To OCF	From OCF
material	oic.r.energy.battery	oic.r.batterymaterial.material = material Direct translation is difficult as OCF has declared an enumeration of strings where oneM2M has a free-form string. Translation code	material = oic.r.batterymaterial.material[INDEX]

		will need to determine which oneM2M strings can be mapped to the OCF enumerated values in oic.r.batterymaterial	
electricEnergy	oic.r.energy.battery	oic.r.energy.electrical.current = electricEnergy	electricEnergy = oic.r.energy.electrical.current
charging	oic.r.energy.battery	oic.r.energy.battery.charging = charging	charging = oic.r.energy.battery.charging
discharging	oic.r.energy.battery	oic.r.energy.battery.discharging = discharging	discharging = oic.r.energy.battery.discharging
capacity	oic.r.energy.battery	oic.r.energy.battery.capacity = capacity / 1000	capacity = oic.r.energy.battery.capacity * 1000
level	oic.r.energy.battery	oic.r.energy.battery.charge = level	level = oic.r.energy.battery.charge
batteryThreshold	oic.r.energy.battery	oic.r.energy.battery.batterythreshold = batteryThreshold	batteryThreshold = oic.r.energy.battery.batterythreshold
voltage	oic.r.energy.battery	oic.r.energy.electrical.voltage = voltage	voltage = oic.r.energy.electrical.voltage
lowBattery	oic.r.energy.battery	oic.r.energy.battery.lowbattery = lowBattery	lowBattery = oic.r.energy.battery.lowbattery

1456 Table 22 provides the details of the Properties that are part of "onem2m.m.battery".

1457

**Table 22 – The properties of "onem2m.m.battery".**

oneM2M name	Property	Type	Required	Description
material		string	no	The material of the cell (for example lithium ion, nickel and lead)
electricEnergy		integer	no	Rated electric energy. The unit of measure is ampere (A)

charging	boolean	no	The status of charging. 'True' indicates enabled, and 'False' indicates not enabled
discharging	boolean	no	The status of discharging. 'True' indicates charging, and 'False' indicates not charging
capacity	integer	no	The total capacity of battery in mAh
level	integer	yes	The rounded percentage of the current charging level of a battery in the range of [0, 100]
batteryThreshold	integer	no	When a battery's 'level' is less than 'batteryThreshold' then 'lowBattery' is set to 'True'. This datapoint can be used to raise an alarm, depending on the implementation
voltage	integer	no	Rated voltage. The unit of measure is volts (V)
lowBattery	boolean	no	To indicate that the battery is on a low charge level

1458 **8.11.3 Derived model definition**

```

1459 {
1460   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.battery.json#",
1461   "$schema": "http://json-schema.org/draft-04/schema#",
1462   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1463   "title": "Battery",
1464   "definitions": {
1465     "onem2m.m.battery": {
1466       "type": "object",
1467       "properties": {
1468         "level": {
1469           "type": "integer",
1470           "description": "The rounded percentage of the current charging level of a battery in the
1471 range of [0, 100]",
1472           "x-ocf-conversion": {
1473             "x-ocf-alias": "oic.r.energy.battery",
1474             "x-to-ocf": [

```

```

1475         "oic.r.energy.battery.charge = level"
1476     ],
1477     "x-from-ocf": [
1478         "level = oic.r.energy.battery.charge"
1479     ]
1480 }
1481 },
1482 "capacity": {
1483     "type": "integer",
1484     "description": "The total capacity of battery in mAh",
1485     "x-ocf-conversion": {
1486         "x-ocf-alias": "oic.r.energy.battery",
1487         "x-to-ocf": [
1488             "oic.r.energy.battery.capacity = capacity / 1000"
1489         ],
1490         "x-from-ocf": [
1491             "capacity = oic.r.energy.battery.capacity * 1000"
1492         ]
1493     }
1494 },
1495 "charging": {
1496     "type": "boolean",
1497     "description": "The status of charging. 'True' indicates enabled, and 'False' indicates
1498 not enabled",
1499     "x-ocf-conversion": {
1500         "x-ocf-alias": "oic.r.energy.battery",
1501         "x-to-ocf": [
1502             "oic.r.energy.battery.charging = charging"
1503         ],
1504         "x-from-ocf": [
1505             "charging = oic.r.energy.battery.charging"
1506         ]
1507     }
1508 },
1509 "discharging": {
1510     "type": "boolean",
1511     "description": "The status of discharging. 'True' indicates charging, and 'False'
1512 indicates not charging",
1513     "x-ocf-conversion": {
1514         "x-ocf-alias": "oic.r.energy.battery",
1515         "x-to-ocf": [
1516             "oic.r.energy.battery.discharging = discharging"
1517         ],
1518         "x-from-ocf": [
1519             "discharging = oic.r.energy.battery.discharging"
1520         ]
1521     }
1522 },
1523 "lowBattery": {
1524     "type": "boolean",
1525     "description": "To indicate that the battery is on a low charge level",
1526     "x-ocf-conversion": {
1527         "x-ocf-alias": "oic.r.energy.battery",
1528         "x-to-ocf": [
1529             "oic.r.energy.battery.lowbattery = lowBattery"
1530         ],
1531         "x-from-ocf": [
1532             "lowBattery = oic.r.energy.battery.lowbattery"
1533         ]
1534     }
1535 },
1536 "batteryThreshold": {
1537     "type": "integer",
1538     "description": "When a battery's 'level' is less than 'batteryThreshold' then
1539 'lowBattery' is set to 'True'. This datapoint can be used to raise an alarm, depending on the
1540 implementation",
1541     "x-ocf-conversion": {
1542         "x-ocf-alias": "oic.r.energy.battery",
1543         "x-to-ocf": [
1544             "oic.r.energy.battery.batterythreshold = batteryThreshold"
1545         ]

```

```

1546         "x-from-ocf": [
1547             "batteryThreshold = oic.r.energy.battery.batterythreshold"
1548         ]
1549     },
1550     "electricEnergy": {
1551         "type": "integer",
1552         "description": "Rated electric energy. The unit of measure is ampere (A)",
1553         "x-ocf-conversion": {
1554             "x-ocf-alias": "oic.r.energy.battery",
1555             "x-to-ocf": [
1556                 "oic.r.energy.electrical.current = electricEnergy"
1557             ],
1558             "x-from-ocf": [
1559                 "electricEnergy = oic.r.energy.electrical.current"
1560             ]
1561         }
1562     },
1563     "voltage": {
1564         "type": "integer",
1565         "description": "Rated voltage. The unit of measure is volts (V)",
1566         "x-ocf-conversion": {
1567             "x-ocf-alias": "oic.r.energy.battery",
1568             "x-to-ocf": [
1569                 "oic.r.energy.electrical.voltage = voltage"
1570             ],
1571             "x-from-ocf": [
1572                 "voltage = oic.r.energy.electrical.voltage"
1573             ]
1574         }
1575     },
1576     "material": {
1577         "type": "string",
1578         "description": "The material of the cell (for example lithium ion, nickel and lead",
1579         "x-ocf-conversion": {
1580             "x-ocf-alias": "oic.r.energy.battery",
1581             "x-to-ocf": [
1582                 "oic.r.batterymaterial.material = material",
1583                 "Direct translation is difficult as OCF has declared an enumeration of strings where
1584 oneM2M has a free-form string. Translation code will need to determine which oneM2M strings can be
1585 mapped to the OCF enumerated values in oic.r.batterymaterial"
1586             ],
1587             "x-from-ocf": [
1588                 "material = oic.r.batterymaterial.material[INDEX]"
1589             ]
1590         }
1591     }
1592 }
1593 }
1594 }
1595 },
1596 "type": "object",
1597 "allOf": [
1598     {"$ref": "#/definitions/onem2m.m.battery"}
1599 ],
1600 "required": [ "level" ]
1601 }

```

## 1602 8.12 Binary Object

### 1603 8.12.1 Derived model

1604 The derived model: "onem2m.m.binaryobject".

### 1605 8.12.2 Property definition

1606 Table 23 provides the detailed per Property mapping for "onem2m.m.binaryobject".

**Table 23 – The property mapping for "onem2m.m.binaryobject".**

oneM2M Property name	OCF Resource	To OCF	From OCF
objectType	oic.r.opaquedata	oic.r.opaquedata.payloadtype = objectType	objectType = oic.r.opaquedata.payloadtype
object	oic.r.opaquedata	oic.r.opaquedata.payload = object oic.r.opaquedata.encoding = "base64" oic.r.opaquedata.system = "oneM2M"	If the OCF encoding is not base64, then the payload would need to be converted to base64 object = oic.r.opaquedata.payload
size	oic.r.opaquedata	oic.r.opaquedata.size = size	size = oic.r.opaquedata.size
hash	oic.r.opaquedata	oic.r.opaquedata.hash = hash	hash = oic.r.opaquedata.hash

1608 Table 24 provides the details of the Properties that are part of "onem2m.m.binaryobject".

**Table 24 – The properties of "onem2m.m.binaryobject".**

oneM2M name	Property	Type	Required	Description
objectType		string	yes	This data point contains the type and subtype of the binary object as a MIME type.
object		string	yes	This data point contains the base64 encoded binary object.
size		integer	no	The size of the decoded binary object.
hash		string	no	The hash code of the blob. If present, it is used to check the decoded content of the "object" data point for integrity. The algorithm used for generating the hash

			value is SHA-2 [15]. The data point contains the hash as a hex encoded value.
--	--	--	---

1610 **8.12.3 Derived model definition**

```

1611 {
1612   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.binaryobject.json#",
1613   "$schema": "http://json-schema.org/draft-04/schema#",
1614   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1615   "title": "Binary Object",
1616   "definitions": {
1617     "onem2m.m.binaryobject": {
1618       "type": "object",
1619       "properties": {
1620         "object": {
1621           "type": "string",
1622           "description": "This data point contains the base64 encoded binary object.",
1623           "x-ocf-conversion": {
1624             "x-ocf-alias": "oic.r.opaquedata",
1625             "x-to-ocf": [
1626               "oic.r.opaquedata.payload = object",
1627               "oic.r.opaquedata.encoding = \"base64\"",
1628               "oic.r.opaquedata.system = \"oneM2M\""
1629             ],
1630             "x-from-ocf": [
1631               "If the OCF encoding is not base64, then the payload would need to be converted to
1632 base64",
1633               "object = oic.r.opaquedata.payload"
1634             ]
1635           }
1636         },
1637         "objectType": {
1638           "type": "string",
1639           "description": "This data point contains the type and subtype of the binary object as a
1640 MIME type.",
1641           "x-ocf-conversion": {
1642             "x-ocf-alias": "oic.r.opaquedata",
1643             "x-to-ocf": [
1644               "oic.r.opaquedata.payloadtype = objectType"
1645             ],
1646             "x-from-ocf": [
1647               "objectType = oic.r.opaquedata.payloadtype"
1648             ]
1649           }
1650         },
1651         "size": {
1652           "type": "integer",
1653           "description": "The size of the decoded binary object.",
1654           "x-ocf-conversion": {
1655             "x-ocf-alias": "oic.r.opaquedata",
1656             "x-to-ocf": [
1657               "oic.r.opaquedata.size = size"
1658             ],
1659             "x-from-ocf": [
1660               "size = oic.r.opaquedata.size"
1661             ]
1662           }
1663         },
1664         "hash": {
1665           "type": "string",
1666           "description": "The hash code of the blob. If present, it is used to check the decoded
1667 content of the \"object\" data point for integrity. The algorithm used for generating the hash
1668 value is SHA-2 [15]. The data point contains the hash as a hex encoded value.",
1669           "x-ocf-conversion": {
1670             "x-ocf-alias": "oic.r.opaquedata",
1671             "x-to-ocf": [
1672               "oic.r.opaquedata.hash = hash"

```

```

1673         ],
1674         "x-from-ocf": [
1675             "hash = oic.r.opaquedata.hash"
1676         ]
1677     }
1678 }
1679 }
1680 }
1681 },
1682 "type": "object",
1683 "allOf": [
1684     {"$ref": "#/definitions/onem2m.m.opaquedata"}
1685 ],
1686 "required": [ "object", "objectType" ]
1687 }
1688

```

## 1689 8.13 Binary Switch

### 1690 8.13.1 Derived model

1691 The derived model: "onem2m.m.binaryswitch".

### 1692 8.13.2 Property definition

1693 Table 25 provides the detailed per Property mapping for "onem2m.m.binaryswitch".

1694 **Table 25 – The property mapping for "onem2m.m.binaryswitch".**

oneM2M Property name	OCF Resource	To OCF	From OCF
powerState	oic.r.swtich.binary	oic.r.switch.binary.value = powerState	powerState = oic.r.switch.binary.value

1695 Table 26 provides the details of the Properties that are part of "onem2m.m.binaryswitch".

1696 **Table 26 – The properties of "onem2m.m.binaryswitch".**

oneM2M Property name	Type	Required	Description
powerState	boolean	yes	Status of the switch

### 1697 8.13.3 Derived model definition

```

1698 {
1699     "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.binaryswitch.json#",
1700     "$schema": "http://json-schema.org/draft-04/schema#",
1701     "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1702     "title": "Binary Switch",
1703     "definitions": {
1704         "onem2m.m.binaryswitch": {
1705             "type": "object",
1706             "properties": {
1707                 "powerState": {
1708                     "type": "boolean",
1709                     "description": "Status of the switch",
1710                     "x-ocf-conversion": {
1711                         "x-ocf-alias": "oic.r.swtich.binary",
1712                         "x-to-ocf": [
1713                             "oic.r.switch.binary.value = powerState"
1714                         ],
1715                         "x-from-ocf": [

```

```

1716         "powerState = oic.r.switch.binary.value"
1717     ]
1718 }
1719 }
1720 }
1721 }
1722 },
1723 "type": "object",
1724 "allOf": [
1725     {"$ref": "#/definitions/onem2m.m.binaryswitch"}
1726 ],
1727 "required": [ "powerState" ]
1728 }

```

## 1729 8.14 Boiler

### 1730 8.14.1 Derived model

1731 The derived model: "onem2m.m.boiler".

### 1732 8.14.2 Property definition

1733 Table 27 provides the detailed per Property mapping for "onem2m.m.boiler".

1734 **Table 27 – The property mapping for "onem2m.m.boiler".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
status		oic.r.sensor	oic.r.sensor.value = status	status = oic.r.sensor.value

1735 Table 28 provides the details of the Properties that are part of "onem2m.m.boiler".

1736 **Table 28 – The properties of "onem2m.m.boiler".**

oneM2M name	Property	Type	Required	Description
status		boolean	yes	The status of boiling.

### 1737 8.14.3 Derived model definition

```

1738 {
1739     "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.boiler.json#",
1740     "$schema": "http://json-schema.org/draft-04/schema#",
1741     "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1742     "title": "Boiler",
1743     "definitions": {
1744         "onem2m.m.boiler": {
1745             "type": "object",
1746             "properties": {
1747                 "status": {
1748                     "type": "boolean",
1749                     "description": "The status of boiling.",
1750                     "x-ocf-conversion": {
1751                         "x-ocf-alias": "oic.r.sensor",
1752                         "x-to-ocf": [
1753                             "oic.r.sensor.value = status"
1754                         ],
1755                         "x-from-ocf": [
1756                             "status = oic.r.sensor.value"
1757                         ]
1758                     }
1759                 }
1760             }
1761         }
1762     }
1763 }

```

```

1759     }
1760   }
1761 }
1762 },
1763 "type": "object",
1764 "allOf": [
1765   { "$ref": "#/definitions/onem2m.m.boiler" }
1766 ],
1767 "required": [ "status" ]
1768 }
1769

```

1770 **8.15 Brewing**

1771 **8.15.1 Derived model**

1772 The derived model: "onem2m.m.brewing".

1773 **8.15.2 Property definition**

1774 Table 29 provides the detailed per Property mapping for "onem2m.m.brewing".

1775 **Table 29 – The property mapping for "onem2m.m.brewing".**

oneM2M Property name	OCF Resource	To OCF	From OCF
cupsNumber	oic.r.brewing	oic.r.brewing.amountrequested = cupsNumber * 150	cupsNumber = floor(oic.r.brewing.amountrequested / 150)
strength	oic.r.brewing	oic.r.brewing.strengthrange[0] = 1oic.r.brewing.strengthrange[1] = 5oic.r.brewing.strength = strength	oic.r.brewing.strengthrange[0] = 1oic.r.brewing.strengthrange[1] = 5strength = oic.r.brewing.strength

1776 Table 30 provides the details of the Properties that are part of "onem2m.m.brewing".

1777 **Table 30 – The properties of "onem2m.m.brewing".**

oneM2M name	Property	Type	Required	Description
cupsNumber		integer	yes	The current number of the cups requested to brew
strength		integer	no	The current strength of the drink taste. A higher value indicates a stronger taste

1778 **8.15.3 Derived model definition**

```

1779 {
1780   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.brewing.json#",
1781   "$schema": "http://json-schema.org/draft-04/schema#",

```

```

1782 "description" : "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1783 "title": "Brewing",
1784 "definitions": {
1785   "onem2m.m.brewing": {
1786     "type": "object",
1787     "properties": {
1788       "cupsNumber": {
1789         "type": "integer",
1790         "description": "The current number of the cups requested to brew",
1791         "x-ocf-conversion": {
1792           "x-ocf-alias": "oic.r.brewing",
1793           "x-to-ocf": [
1794             "oic.r.brewing.amountrequested = cupsNumber * 150"
1795           ],
1796           "x-from-ocf": [
1797             "cupsNumber = floor(oic.r.brewing.amountrequested / 150)"
1798           ]
1799         }
1800       },
1801       "strength": {
1802         "type": "integer",
1803         "description": "The current strength of the drink taste. A higher value indicates a
1804 stronger taste",
1805         "x-ocf-conversion": {
1806           "x-ocf-alias": "oic.r.brewing",
1807           "x-to-ocf": [
1808             "oic.r.brewing.strengthrange[0] = 1",
1809             "oic.r.brewing.strengthrange[1] = 5",
1810             "oic.r.brewing.strength = strength"
1811           ],
1812           "x-from-ocf": [
1813             "oic.r.brewing.strengthrange[0] = 1",
1814             "oic.r.brewing.strengthrange[1] = 5",
1815             "strength = oic.r.brewing.strength"
1816           ]
1817         }
1818       }
1819     }
1820   },
1821 },
1822 "type": "object",
1823 "allOf": [
1824   {"$ref": "#/definitions/onem2m.m.brewing"}
1825 ],
1826 "required": [ "cupsNumber" ]
1827 }

```

1828 **8.16 Brightness**

1829 **8.16.1 Derived model**

1830 The derived model: "onem2m.m.brightness".

1831 **8.16.2 Property definition**

1832 Table 31 provides the detailed per Property mapping for "onem2m.m.brightness".

1833 **Table 31 – The property mapping for "onem2m.m.brightness".**

oneM2M Property name	OCF Resource	To OCF	From OCF
brightness	oic.r.light.brightness	oic.r.light.brightness.brightness = brightness	brightness = oic.r.light.brightness.brightness

1834 Table 32 provides the details of the Properties that are part of "onem2m.m.brightness".

1835 **Table 32 – The properties of "onem2m.m.brightness".**

oneM2M name	Property	Type	Required	Description
brightness		integer	yes	The status of brightness level in percentage

1836 **8.16.3 Derived model definition**

```

1837 {
1838   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.brightness.json#",
1839   "$schema": "http://json-schema.org/draft-04/schema#",
1840   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1841   "title": "Brightness",
1842   "definitions": {
1843     "onem2m.m.brightness": {
1844       "type": "object",
1845       "properties": {
1846         "brightness": {
1847           "type": "integer",
1848           "description": "The status of brightness level in percentage",
1849           "x-ocf-conversion": {
1850             "x-ocf-alias": "oic.r.light.brightness",
1851             "x-to-ocf": [
1852               "oic.r.light.brightness.brightness = brightness"
1853             ],
1854             "x-from-ocf": [
1855               "brightness = oic.r.light.brightness.brightness"
1856             ]
1857           }
1858         }
1859       }
1860     }
1861   },
1862   "type": "object",
1863   "allOf": [
1864     {"$ref": "#/definitions/onem2m.m.brightness"}
1865   ],
1866   "required": [ "brightness" ]
1867 }

```

1868 **8.17 Clock**

1869 **8.17.1 Derived model**

1870 The derived model: "onem2m.m.clock".

1871 **8.17.2 Property definition**

1872 Table 33 provides the detailed per Property mapping for "onem2m.m.clock".

1873 **Table 33 – The property mapping for "onem2m.m.clock".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
currentTime		oic.r.clock	bytecpy ( oic.r.clock.datetime + "timepos",	bytecpy ( currentTime,

		currentTime, "timelen" );	oic.r.clock.datetime + "timepos", "timelen" );
currentDate	oic.r.clock	bytecpy ( oic.r.clock.datetime + "datepos", currentDate, "datelen" );	bytecpy ( currentDate, oic.r.clock.datetime + "datepos", "datelen" );
currentTimeZone	oic.r.clock	Convert IANA formatted currentTimeZone to oic.r.clock.datetime timezone offset location using library calltx_convert ( oic.r.clock.datetime + "tzpos", currentTimeZone );	Convert oic.r.clock.datetime timezone offset location in IANA formatted currentTimeZone using library calltz_convert ( currentTimeZone, oic.r.clock.datetime + "tzpos" );

1874 Table 34 provides the details of the Properties that are part of "onem2m.m.clock".

1875 **Table 34 – The properties of "onem2m.m.clock".**

oneM2M Property name	Type	Required	Description
currentTime	string	yes	Information of the current time.
currentDate	string	yes	Information of the current time.
currentTimeZone	string	no	Name of current time zone according to the IANA Timezone data format (TZ) ( <a href="https://www.iana.org/time-zones">https://www.iana.org/time-zones</a> ).

1876 **8.17.3 Derived model definition**

```

1877 {
1878   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.clock.json#",
1879   "$schema": "http://json-schema.org/draft-04/schema#",
1880   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1881   "title": "Clock",
1882   "definitions": {
1883     "onem2m.m.clock": {
1884       "type": "object",
1885       "properties": {
1886         "currentTime": {
1887           "type": "string",
1888           "description": "Information of the current time.",
1889           "x-ocf-conversion": {
1890             "x-ocf-alias": "oic.r.clock",
1891             "x-to-ocf": [

```

```

1892         "bytecpy ( oic.r.clock.datetime + \"timepos\", currentTime, \"timelen\" );"
1893     ],
1894     "x-from-ocf": [
1895         "bytecpy ( currentTime, oic.r.clock.datetime + \"timepos\", \"timelen\" );"
1896     ]
1897 }
1898 },
1899 "currentDate": {
1900     "type": "string",
1901     "description": "Information of the current time.",
1902     "x-ocf-conversion": {
1903         "x-ocf-alias": "oic.r.clock",
1904         "x-to-ocf": [
1905             "bytecpy ( oic.r.clock.datetime + \"datepos\", currentDate, \"datelen\" );"
1906         ],
1907         "x-from-ocf": [
1908             "bytecpy ( currentDate, oic.r.clock.datetime + \"datepos\", \"datelen\" );"
1909         ]
1910     }
1911 },
1912 "currentTimeZone": {
1913     "type": "string",
1914     "description": "Name of current time zone according to the IANA Timezone data format (TZ)
1915 (https://www.iana.org/time-zones).",
1916     "x-ocf-conversion": {
1917         "x-ocf-alias": "oic.r.clock",
1918         "x-to-ocf": [
1919             "Convert IANA formatted currentTimeZone to oic.r.clock.datetime timezone offset
1920 location using library call",
1921             "tx_convert ( oic.r.clock.datetime + \"tzpos\", currentTimeZone );"
1922         ],
1923         "x-from-ocf": [
1924             "Convert oic.r.clock.datetime timezone offset location in IANA formatted
1925 currentTimeZone using library call",
1926             "tz_convert ( currentTimeZone, oic.r.clock.datetime + \"tzpos\" );"
1927         ]
1928     }
1929 }
1930 }
1931 }
1932 },
1933 "type": "object",
1934 "allOf": [
1935     { "$ref": "#/definitions/onem2m.m.clock" }
1936 ],
1937 "required": [ "currentTime", "currentDate" ]
1938 }
1939

```

## 1940 8.18 Clothes Dryer Job Mode

### 1941 8.18.1 Derived model

1942 The derived model: "onem2m.m.clothesdryerjobmode".

### 1943 8.18.2 Property definition

1944 Table 35 provides the detailed per Property mapping for "onem2m.m.clothesdryerjobmode".

1945 **Table 35 – The property mapping for "onem2m.m.clothesdryerjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already	Need to translate between the OCF operational state enumerated string and the oneM2M string valueif

		accommodated in the currentJobMode property.	<pre>(oic.r.operational.state.currentJobState == "normal" ) { currentJobModeName = "normal"; }if (oic.r.operational.state.currentJobState == "quick" ) { currentJobModeName = "quickDry"; }if (oic.r.operational.state.currentJobState == "permapress" { currentJobModeName = "permanentPress"; }if (oic.r.operational.state.currentJobState == "heavy" ) { currentJobModeName = "heavyDuty"; }if (oic.r.operational.state.currentJobState == "delicate" ) { currentJobModeName = "delicates"; }if (oic.r.operational.state.currentJobState == "airDry" ) { currentJobModeName = "airDry"; }if (oic.r.operational.state.currentJobState == "extended" ) { currentJobModeName = "extendedTumble"; }else { currentJobModeName = ""; }</pre>
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre>jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4 jobModes[5] = 5 jobModes[6] = 6 jobModes[7] = 7</pre>
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre>if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "normal"; }if if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "quick"; }if if ( currentJobMode == 3 )</pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre>if (oic.r.operational.state.currentJobState == "normal" ) { currentJobMode = 1; }if if (oic.r.operational.state.currentJobState == "quick" ) { currentJobMode = 2; }if if (oic.r.operational.state.curr</pre>

		<pre> { oic.r.operational.state.curr entJobState      == "permapress";    }if ( currentJobMode == 4 ) { oic.r.operational.state.curr entJobState == "heavy"; }if ( currentJobMode == 5 ) { oic.r.operational.state.curr entJobState == "delicate"; }if ( currentJobMode == 6 ) { oic.r.operational.state.curr entJobState == "airDry"; }if ( currentJobMode == 7 ) { oic.r.operational.state.curr entJobState      == "extended";      }else { oic.r.operational.state.curr entJobState == "unknown"; } </pre>	<pre> entJobState      == "permapress" { currentJobMode = 3; }if (oic.r.operational.state.curr entJobState == "heavy" ) { currentJobMode = 4; }if (oic.r.operational.state.curr entJobState == "delicate" ) { currentJobMode = 5; }if (oic.r.operational.state.curr entJobState == "airDry" ) { currentJobMode = 6; }if (oic.r.operational.state.curr entJobState == "extended" ) { currentJobMode = 7; }else { currentJobMode = 0; } </pre>
--	--	--	--

1946 Table 36 provides the details of the Properties that are part of "onem2m.m.clothesdryerjobmode".

1947 **Table 36 – The properties of "onem2m.m.clothesdryerjobmode".**

oneM2M name	Property	Type	Required	Description
	currentJobModeName	string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.
	jobModes	array	yes	List of possible job states the device supports
	currentJobMode	integer	yes	Currently active job mode.

1948 **8.18.3 Derived model definition**

```

1949 {
1950   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.clothesdryerjobmode.json#",
1951   "$schema": "http://json-schema.org/draft-04/schema#",
1952   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1953   "title": "Clothes Dryer Job Mode",
1954   "definitions": {
1955     "onem2m.m.clothesdryerjobmode": {
1956       "type": "object",
1957       "properties": {
1958         "currentJobMode": {
1959           "type": "integer",
1960           "description": "Currently active job mode.",
1961           "x-ocf-conversion": {
1962             "x-ocf-alias": "oic.r.operational.state",
1963             "x-to-ocf": [
1964               "Need to translate between the oneM2M integer value and the OCF operational state
1965               enumerated string",

```

```

1966         "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
1967         \"normal\"; }",
1968         "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
1969         \"quick\"; }",
1970         "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
1971         \"permapress\"; }",
1972         "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
1973         \"heavy\"; }",
1974         "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
1975         \"delicate\"; }",
1976         "if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==
1977         \"airDry\"; }",
1978         "if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState ==
1979         \"extended\"; }",
1980         "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
1981     ],
1982     "x-from-ocf": [
1983         "Need to translate between the OCF operational state enumerated string and the oneM2M
1984         integer value",
1985         "if ( oic.r.operational.state.currentJobState == \"normal\" ) { currentJobMode =
1986         1; }",
1987         "if ( oic.r.operational.state.currentJobState == \"quick\" ) { currentJobMode = 2; }",
1988         "if ( oic.r.operational.state.currentJobState == \"permapress\" { currentJobMode =
1989         3; }",
1990         "if ( oic.r.operational.state.currentJobState == \"heavy\" ) { currentJobMode = 4; }",
1991         "if ( oic.r.operational.state.currentJobState == \"delicate\" ) { currentJobMode =
1992         5; }",
1993         "if ( oic.r.operational.state.currentJobState == \"airDry\" ) { currentJobMode =
1994         6; }",
1995         "if ( oic.r.operational.state.currentJobState == \"extended\" ) { currentJobMode =
1996         7; }",
1997         "else { currentJobMode = 0; }"
1998     ]
1999 },
2000 },
2001     "currentJobModeName": {
2002         "type": "string",
2003         "description": "Name of current job mode in string. This can be used when currentJobMode
2004         is vendor-specific.",
2005         "x-ocf-conversion": {
2006             "x-ocf-alias": "oic.r.operational.state",
2007             "x-to-ocf": [
2008                 "This value does not exist in OCF as it is already accommodated in the currentJobMode
2009                 property."
2010             ],
2011             "x-from-ocf": [
2012                 "Need to translate between the OCF operational state enumerated string and the oneM2M
2013                 string value",
2014                 "if ( oic.r.operational.state.currentJobState == \"normal\" ) { currentJobModeName =
2015                 \"normal\"; }",
2016                 "if ( oic.r.operational.state.currentJobState == \"quick\" ) { currentJobModeName =
2017                 \"quickDry\"; }",
2018                 "if ( oic.r.operational.state.currentJobState == \"permapress\" { currentJobModeName =
2019                 \"permanentPress\"; }",
2020                 "if ( oic.r.operational.state.currentJobState == \"heavy\" ) { currentJobModeName =
2021                 \"heavyDuty\"; }",
2022                 "if ( oic.r.operational.state.currentJobState == \"delicate\" ) { currentJobModeName =
2023                 \"delicates\"; }",
2024                 "if ( oic.r.operational.state.currentJobState == \"airDry\" ) { currentJobModeName =
2025                 \"airDry\"; }",
2026                 "if ( oic.r.operational.state.currentJobState == \"extended\" ) { currentJobModeName =
2027                 \"extendedTumble\"; }",
2028                 "else { currentJobModeName = \"\"; }"
2029             ]
2030         ]
2031     },
2032     "jobModes": {
2033         "type": "array",
2034         "description": "List of possible job states the device supports",
2035         "x-ocf-conversion": {
2036             "x-ocf-alias": "oic.r.operational.state",

```

```

2037         "x-to-ocf": [
2038             "This does not exist in OCF as all possible operational states are available."
2039         ],
2040         "x-from-ocf": [
2041             "This is an array of integers in oneM2M defined by the current version of the
2042 specification as follows:",
2043             "jobModes[1] = 1",
2044             "jobModes[2] = 2",
2045             "jobModes[3] = 3",
2046             "jobModes[4] = 4",
2047             "jobModes[5] = 5",
2048             "jobModes[6] = 6",
2049             "jobModes[7] = 7"
2050         ]
2051     }
2052 }
2053 }
2054 }
2055 },
2056 "type": "object",
2057 "allOf": [
2058     {"$ref": "#/definitions/onem2m.m.airconjobmode"}
2059 ],
2060 "required": [ "currentJobMode", "jobModes" ]
2061 }

```

2062 **8.19 Colour**

2063 **8.19.1 Derived model**

2064 The derived model: "onem2m.m.colour".

2065 **8.19.2 Property definition**

2066 Table 37 provides the detailed per Property mapping for "onem2m.m.colour".

2067 **Table 37 – The property mapping for "onem2m.m.colour".**

oneM2M Property name	OCF Resource	To OCF	From OCF
red	oic.r.colour	oic.r.colour.rgb.rgbValue[0] = red	red = oic.r.colour.rgb.rgbValue[0]
blue	oic.r.colour	oic.r.colour.rgb.rgbValue[2] = blue	blue = oic.r.colour.rgb.rgbValue[2]
green	oic.r.colour	oic.r.colour.rgb.rgbValue[1] = green	green = oic.r.colour.rgb.rgbValue[1]

2068 Table 38 provides the details of the Properties that are part of "onem2m.m.colour".

2069 **Table 38 – The properties of "onem2m.m.colour".**

oneM2M name	Property	Type	Required	Description
red		integer	yes	The value of the Red colour channel of

			RGB. The range is [0,255]
blue	integer	yes	The value of the Blue colour channel of RGB. The range is [0,255]
green	integer	yes	The value of the Green colour channel of RGB. The range is [0,255]

2070 **8.19.3 Derived model definition**

```

2071 {
2072   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.colour.json#",
2073   "$schema": "http://json-schema.org/draft-04/schema#",
2074   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2075   "title": "Colour",
2076   "definitions": {
2077     "onem2m.m.colour": {
2078       "type": "object",
2079       "properties": {
2080         "red": {
2081           "type": "integer",
2082           "description": "The value of the Red colour channel of RGB. The range is [0,255]",
2083           "x-ocf-conversion": {
2084             "x-ocf-alias": "oic.r.colour",
2085             "x-to-ocf": [
2086               "oic.r.colour.rgb.rgbValue[0] = red"
2087             ],
2088             "x-from-ocf": [
2089               "red = oic.r.colour.rgb.rgbValue[0]"
2090             ]
2091           }
2092         },
2093         "green": {
2094           "type": "integer",
2095           "description": "The value of the Green colour channel of RGB. The range is [0,255]",
2096           "x-ocf-conversion": {
2097             "x-ocf-alias": "oic.r.colour",
2098             "x-to-ocf": [
2099               "oic.r.colour.rgb.rgbValue[1] = green"
2100             ],
2101             "x-from-ocf": [
2102               "green = oic.r.colour.rgb.rgbValue[1]"
2103             ]
2104           }
2105         },
2106         "blue": {
2107           "type": "integer",
2108           "description": "The value of the Blue colour channel of RGB. The range is [0,255]",
2109           "x-ocf-conversion": {
2110             "x-ocf-alias": "oic.r.colour",
2111             "x-to-ocf": [
2112               "oic.r.colour.rgb.rgbValue[2] = blue"
2113             ],
2114             "x-from-ocf": [
2115               "blue = oic.r.colour.rgb.rgbValue[2]"
2116             ]
2117           }
2118       }
2119     }
2120   }
2121 },

```

```

2122     "type": "object",
2123     "allOf": [
2124       { "$ref": "#/definitions/onem2m.m.colour.json" }
2125     ],
2126     "required": [ "red", "green", "blue" ]
2127   }
2128

```

## 2129 8.20 Colour Saturation

### 2130 8.20.1 Derived model

2131 The derived model: "onem2m.m.coloursaturation".

### 2132 8.20.2 Property definition

2133 Table 39 provides the detailed per Property mapping for "onem2m.m.coloursaturation".

2134 **Table 39 – The property mapping for "onem2m.m.coloursaturation".**

oneM2M Property name	OCF Resource	To OCF	From OCF
colourSaturation	oic.r.colour.saturation	oic.r.colour.saturation.colourSaturation = colourSaturation	colourSaturation = oic.r.colour.saturation.colourSaturation

2135 Table 40 provides the details of the Properties that are part of "onem2m.m.coloursaturation".

2136 **Table 40 – The properties of "onem2m.m.coloursaturation".**

oneM2M name	Property	Type	Required	Description
colourSaturation		integer	yes	The status of colour saturation level. 'colourSaturation' has a range of [0,100].

### 2137 8.20.3 Derived model definition

```

2138 {
2139   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.coloursaturation.json#",
2140   "$schema": "http://json-schema.org/draft-04/schema#",
2141   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2142   "title": "Colour Saturation",
2143   "definitions": {
2144     "onem2m.m.coloursaturation": {
2145       "type": "object",
2146       "properties": {
2147         "colourSaturation": {
2148           "type": "integer",
2149           "description": "The status of colour saturation level. 'colourSaturation' has a range of
2150 [0,100].",
2151           "x-ocf-conversion": {
2152             "x-ocf-alias": "oic.r.colour.saturation",
2153             "x-to-ocf": [
2154               "oic.r.colour.saturation.colourSaturation = colourSaturation"
2155             ],
2156             "x-from-ocf": [
2157               "colourSaturation = oic.r.colour.saturation.colourSaturation"
2158             ]

```

```

2159     }
2160   }
2161 }
2162 }
2163 },
2164 "type": "object",
2165 "allOf": [
2166   {"$ref": "#/definitions/onem2m.m.coloursaturation"}
2167 ],
2168 "required": [ "colourSaturation" ]
2169 }
2170

```

2171 **8.21 Credentials**

2172 **8.21.1 Derived model**

2173 The derived model: "onem2m.m.credentials".

2174 **8.21.2 Property definition**

2175 Table 41 provides the detailed per Property mapping for "onem2m.m.credentials".

2176 **Table 41 – The property mapping for "onem2m.m.credentials".**

oneM2M Property name	OCF Resource	To OCF	From OCF
loginName	oic.r.userinfo	oic.r.userinfo.username = loginName	loginName = oic.r.userinfo.username
token	oic.r.userinfo	oic.r.userinfo.token = token	token = oic.r.userinfo.token
password	oic.r.userinfo	oic.r.userinfo.password = password	password = oic.r.userinfo.password

2177 Table 42 provides the details of the Properties that are part of "onem2m.m.credentials".

2178 **Table 42 – The properties of "onem2m.m.credentials".**

oneM2M Property name	Type	Required	Description
loginName	string	no	User's login name.
token	string	no	Authentication token e.g. OAuth token.
password	string	no	User's password.

2179 **8.21.3 Derived model definition**

```

2180 {
2181   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.credentials.json#",
2182   "$schema": "http://json-schema.org/draft-04/schema#",
2183   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2184   "title": "Credentials",
2185   "definitions": {
2186     "onem2m.m.credentials": {

```

```

2187     "type": "object",
2188     "properties": {
2189         "loginName": {
2190             "type": "string",
2191             "description": "User's login name.",
2192             "x-ocf-conversion": {
2193                 "x-ocf-alias": "oic.r.userinfo",
2194                 "x-to-ocf": [
2195                     "oic.r.userinfo.username = loginName"
2196                 ],
2197                 "x-from-ocf": [
2198                     "loginName = oic.r.userinfo.username"
2199                 ]
2200             }
2201         },
2202         "password": {
2203             "type": "string",
2204             "description": "User's password.",
2205             "x-ocf-conversion": {
2206                 "x-ocf-alias": "oic.r.userinfo",
2207                 "x-to-ocf": [
2208                     "oic.r.userinfo.password = password"
2209                 ],
2210                 "x-from-ocf": [
2211                     "password = oic.r.userinfo.password"
2212                 ]
2213             }
2214         },
2215         "token": {
2216             "type": "string",
2217             "description": "Authentication token e.g. OAuth token.",
2218             "x-ocf-conversion": {
2219                 "x-ocf-alias": "oic.r.userinfo",
2220                 "x-to-ocf": [
2221                     "oic.r.userinfo.token = token"
2222                 ],
2223                 "x-from-ocf": [
2224                     "token = oic.r.userinfo.token"
2225                 ]
2226             }
2227         }
2228     }
2229 },
2230 "type": "object",
2231 "allOf": [
2232     {"$ref": "#/definitions/onem2m.m.credentials"}
2233 ],
2234 "required": [ ]
2235 }
2236 }
2237

```

## 2238 8.22 Dehumidifer Job Mode

### 2239 8.22.1 Derived model

2240 The derived model: "onem2m.m.dehumidiiferjobmode".

### 2241 8.22.2 Property definition

2242 Table 43 provides the detailed per Property mapping for "onem2m.m.dehumidiiferjobmode".

2243 **Table 43 – The property mapping for "onem2m.m.dehumidiiferjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF

currentJobMode	oic.r.operational.state	<p>Need to translate between the oneM2M integer value and the OCF operational state enumerated string</p> <pre>( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "smart"; } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "fast"; } if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "silent"; } if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == "focused"; } if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState == "clothes"; } else { oic.r.operational.state.currentJobState == "unknown"; }</pre>	<p>Need to translate between the OCF operational state enumerated string and the oneM2M integer value</p> <pre>if (oic.r.operational.state.currentJobState == "smart" ) { currentJobMode = 1; } if (oic.r.operational.state.currentJobState == "fast" ) { currentJobMode = 2; } if (oic.r.operational.state.currentJobState == "silent" ) { currentJobMode = 3; } if (oic.r.operational.state.currentJobState == "focused" ) { currentJobMode = 4; } if (oic.r.operational.state.currentJobState == "clothes" ) { currentJobMode = 5; } else { currentJobMode = 0; }</pre>
currentJobModeName	oic.r.operational.state	<p>This value does not exist in OCF as it is already accommodated in the currentJobMode property.</p>	<p>Need to translate between the OCF operational state enumerated string and the oneM2M string value</p> <pre>if (oic.r.operational.state.currentJobState == "smart" ) { currentJobModeName = "smart"; } if (oic.r.operational.state.currentJobState == "fast" ) { currentJobModeName = "fast"; } if (oic.r.operational.state.currentJobState == "silent" ) { currentJobModeName = "silent"; } if (oic.r.operational.state.currentJobState == "focused" ) { currentJobModeName = "focus"; } if (oic.r.operational.state.currentJobState == "clothes" ) { currentJobModeName = "clothes"; } else { currentJobModeName = ""; }</pre>
jobModes	oic.r.operational.state	<p>This does not exist in OCF as all possible operational states are available.</p>	<p>This is an array of integers in oneM2M defined by the current version of the specification as follows:</p> <pre>jobModes[1] =</pre>

			1jobModes[2] =
			2jobModes[3] =
			3jobModes[4] =
			4jobModes[5] = 5

2244 Table 44 provides the details of the Properties that are part of "onem2m.m.dehumidiiferjobmode".

2245 **Table 44 – The properties of "onem2m.m.dehumidiiferjobmode".**

oneM2M name	Property	Type	Required	Description
currentJobMode		integer	yes	Currently active job mode.
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.
jobModes		array	yes	List of possible job states the device supports

2246 **8.22.3 Derived model definition**

```

2247 {
2248   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.dehumidiiferjobmode.json#",
2249   "$schema": "http://json-schema.org/draft-04/schema#",
2250   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2251   "title": "Dehumidifer Job Mode",
2252   "definitions": {
2253     "onem2m.m.dehumidiiferjobmode": {
2254       "type": "object",
2255       "properties": {
2256         "currentJobMode": {
2257           "type": "integer",
2258           "description": "Currently active job mode.",
2259           "x-ocf-conversion": {
2260             "x-ocf-alias": "oic.r.operational.state",
2261             "x-to-ocf": [
2262               "Need to translate between the oneM2M integer value and the OCF operational state
2263               enumerated string",
2264               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
2265               \"smart\"; }",
2266               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
2267               \"fast\"; }",
2268               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
2269               \"silent\"; }",
2270               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
2271               \"focused\"; }",
2272               "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
2273               \"clothes\"; }",
2274               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
2275             ],
2276             "x-from-ocf": [
2277               "Need to translate between the OCF operational state enumerated string and the oneM2M
2278               integer value",
2279               "if ( oic.r.operational.state.currentJobState == \"smart\" ) { currentJobMode = 1; }",
2280               "if ( oic.r.operational.state.currentJobState == \"fast\" ) { currentJobMode = 2; }",
2281               "if ( oic.r.operational.state.currentJobState == \"silent\" ) { currentJobMode = 3; }",

```

```

2282         "if (oic.r.operational.state.currentJobState == \"focused\" ) { currentJobMode =
2283 4; }",
2284         "if (oic.r.operational.state.currentJobState == \"clothes\" ) { currentJobMode =
2285 5; }",
2286         "else { currentJobMode = 0; }"
2287     ]
2288     },
2289     },
2290     "currentJobModeName": {
2291         "type": "string",
2292         "description": "Name of current job mode in string. This can be used when currentJobMode
2293 is vendor-specific.",
2294         "x-ocf-conversion": {
2295             "x-ocf-alias": "oic.r.operational.state",
2296             "x-to-ocf": [
2297                 "This value does not exist in OCF as it is already accommodated in the currentJobMode
2298 property."
2299             ],
2300             "x-from-ocf": [
2301                 "Need to translate between the OCF operational state enumerated string and the oneM2M
2302 string value",
2303                 "if (oic.r.operational.state.currentJobState == \"smart\" ) { currentJobModeName =
2304 \"smart\"; }",
2305                 "if (oic.r.operational.state.currentJobState == \"fast\" ) { currentJobModeName =
2306 \"fast\"; }",
2307                 "if (oic.r.operational.state.currentJobState == \"silent\" ) { currentJobModeName =
2308 \"silent\"; }",
2309                 "if (oic.r.operational.state.currentJobState == \"focused\" ) { currentJobModeName =
2310 \"focus\"; }",
2311                 "if (oic.r.operational.state.currentJobState == \"clothes\" ) { currentJobModeName =
2312 \"clothes\"; }",
2313                 "else { currentJobModeName = \"\"; }"
2314             ]
2315         },
2316     },
2317     "jobModes": {
2318         "type": "array",
2319         "description": "List of possible job states the device supports",
2320         "x-ocf-conversion": {
2321             "x-ocf-alias": "oic.r.operational.state",
2322             "x-to-ocf": [
2323                 "This does not exist in OCF as all possible operational states are available."
2324             ],
2325             "x-from-ocf": [
2326                 "This is an array of integers in oneM2M defined by the current version of the
2327 specification as follows:",
2328                 "jobModes[1] = 1",
2329                 "jobModes[2] = 2",
2330                 "jobModes[3] = 3",
2331                 "jobModes[4] = 4",
2332                 "jobModes[5] = 5"
2333             ]
2334         },
2335     },
2336     },
2337     },
2338     },
2339     "type": "object",
2340     "allOf": [
2341         { "$ref": "#/definitions/oneM2M.m.airconjobmode" }
2342     ],
2343     "required": [ "currentJobMode", "jobModes" ]
2344 }

```

## 2345 8.23 Door Status

### 2346 8.23.1 Derived model

2347 The derived model: "onem2m.m.doorStatus".

2348 **8.23.2 Property definition**

2349 Table 45 provides the detailed per Property mapping for "onem2m.m.doorStatus".

2350 **Table 45 – The property mapping for "onem2m.m.doorStatus".**

oneM2M Property name	OCF Resource	To OCF	From OCF
openDuration	oic.r.door	Conversion from oneM2M timestamp is not yet defined oic.r.door.openDuration = openDuration	Conversion from oneM2M timestamp is not yet defined openDuration = oic.r.door.openDuration
doorState	oic.r.door	if doorState == 1 oic.r.door.openState = "Closed" if doorState == 2 oic.r.door.openState = "Open"	if oic.r.door.openState = "Closed" doorState == 1 if oic.r.door.openState = "Open" doorState == 2
openAlarm	oic.r.door	oic.r.door.openAlarm = openAlarm	openAlarm = oic.r.door.openAlarm

2351 Table 46 provides the details of the Properties that are part of "onem2m.m.doorStatus".

2352 **Table 46 – The properties of "onem2m.m.doorStatus".**

oneM2M name	Property	Type	Required	Description
openDuration		string	no	The time duration the door has been open.
doorState		integer	yes	Current state of the door.
openAlarm		boolean	no	The state of the door open alarm. 'True' indicates that the open alarm is active. 'False' indicates that the open alarm is not active.

2353 **8.23.3 Derived model definition**

```

2354 {
2355   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.doorStatus.json#",
2356   "$schema": "http://json-schema.org/draft-04/schema#",
2357   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2358   "title": "Door Status",
2359   "definitions": {
2360     "onem2m.m.doorStatus": {
2361       "type": "object",
2362       "properties": {
2363         "doorState": {

```

```

2364         "type": "integer",
2365         "description": "Current state of the door.",
2366         "x-ocf-conversion": {
2367             "x-ocf-alias": "oic.r.door",
2368             "x-to-ocf": [
2369                 "if doorState == 1",
2370                 "oic.r.door.openState = \"Closed\"",
2371                 "if doorState == 2",
2372                 "oic.r.door.openState = \"Open\""
2373             ],
2374             "x-from-ocf": [
2375                 "if oic.r.door.openState = \"Closed\"",
2376                 "doorState == 1",
2377                 "if oic.r.door.openState = \"Open\"",
2378                 "doorState == 2"
2379             ]
2380         },
2381     },
2382     "openDuration": {
2383         "type": "string",
2384         "description": "The time duration the door has been open.",
2385         "x-ocf-conversion": {
2386             "x-ocf-alias": "oic.r.door",
2387             "x-to-ocf": [
2388                 "Conversion from oneM2M timestamp is not yet defined",
2389                 "oic.r.door.openDuration = openDuration"
2390             ],
2391             "x-from-ocf": [
2392                 "Conversion from oneM2M timestamp is not yet defined",
2393                 "openDuration = oic.r.door.openDuration"
2394             ]
2395         },
2396     },
2397     "openAlarm": {
2398         "type": "boolean",
2399         "description": "The state of the door open alarm. 'True' indicates that the open alarm is
2400 active. 'False' indicates that the open alarm is not active.",
2401         "x-ocf-conversion": {
2402             "x-ocf-alias": "oic.r.door",
2403             "x-to-ocf": [
2404                 "oic.r.door.openAlarm = openAlarm"
2405             ],
2406             "x-from-ocf": [
2407                 "openAlarm = oic.r.door.openAlarm"
2408             ]
2409         },
2410     },
2411 },
2412 },
2413 },
2414 "type": "object",
2415 "allOf": [
2416     {"$ref": "#/definitions/onem2m.m.doorStatus"}
2417 ],
2418 "required": [ "doorState" ]
2419 }
2420

```

## 2421 8.24 Electric Vehicle Connector

### 2422 8.24.1 Derived model

2423 The derived model: "onem2m.m.electricvehicleconnector".

### 2424 8.24.2 Property definition

2425 Table 47 provides the detailed per Property mapping for "onem2m.m.electricvehicleconnector".

**Table 47 – The property mapping for "onem2m.m.electricvehicleconnector".**

oneM2M Property name	OCF Resource	To OCF	From OCF
propDischargingCapacity	oic.r.vehicle.connector	oic.r.vehicle.connector.rateddischargingcapacity = propDischargingCapacity * 1000	propDischargingCapacity = oic.r.vehicle.connector.rateddischargingcapacity / 1000
propChargingCapacity	oic.r.vehicle.connector	oic.r.vehicle.connector.ratedchargingcapacity = propChargingCapacity * 1000	propChargingCapacity = oic.r.vehicle.connector.ratedchargingcapacity / 1000
status	oic.r.vehicle.connector	oic.r.vehicle.connector.status = status;	status = oic.r.vehicle.connector.status

2427 Table 48 provides the details of the Properties that are part of  
2428 "onem2m.m.electricvehicleconnector".

**Table 48 – The properties of "onem2m.m.electricvehicleconnector".**

oneM2M Property name	Type	Required	Description
propDischargingCapacity	integer	no	Rated discharging capacity in milli-Amps.
propChargingCapacity	integer	no	Rated charging capacity in milli-Amps.
status	boolean	yes	The status of connection.

### 2430 8.24.3 Derived model definition

```

2431 {
2432   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.electricvehicleconnector#",
2433   "$schema": "http://json-schema.org/draft-04/schema#",
2434   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2435   "title": "Electric Vehicle Connector",
2436   "definitions": {
2437     "onem2m.m.electricvehicleconnector": {
2438       "type": "object",
2439       "properties": {
2440         "status": {
2441           "type": "boolean",
2442           "description": "The status of connection.",
2443           "x-ocf-conversion": {
2444             "x-ocf-alias": "oic.r.vehicle.connector",
2445             "x-to-ocf": [
2446               "oic.r.vehicle.connector.status = status;"
2447             ],
2448             "x-from-ocf": [
2449               "status = oic.r.vehicle.connector.status"

```

```

2450     ]
2451   }
2452 },
2453   "propChargingCapacity": {
2454     "type": "integer",
2455     "description": "Rated charging capacity in milli-Amps.",
2456     "x-ocf-conversion": {
2457       "x-ocf-alias": "oic.r.vehicle.connector",
2458       "x-to-ocf": [
2459         "oic.r.vehicle.connector.ratedchargingcapacity = propChargingCapacity * 1000"
2460       ],
2461       "x-from-ocf": [
2462         "propChargingCapacity = oic.r.vehicle.connector.ratedchargingcapacity / 1000"
2463       ]
2464     }
2465   },
2466   "propDischargingCapacity": {
2467     "type": "integer",
2468     "description": "Rated discharging capacity in milli-Amps.",
2469     "x-ocf-conversion": {
2470       "x-ocf-alias": "oic.r.vehicle.connector",
2471       "x-to-ocf": [
2472         "oic.r.vehicle.connector.rateddischargingcapacity = propDischargingCapacity * 1000"
2473       ],
2474       "x-from-ocf": [
2475         "propDischargingCapacity = oic.r.vehicle.connector.rateddischargingcapacity / 1000"
2476       ]
2477     }
2478   }
2479 }
2480 }
2481 },
2482 "type": "object",
2483 "allOf": [
2484   {"$ref": "#/definitions/onem2m.m.electricvehicleconnector"}
2485 ],
2486 "required": [ "status" ]
2487 }
2488

```

2489 **8.25 Energy Consumption**

2490 **8.25.1 Derived model**

2491 The derived model: "onem2m.m.energyconsumption".

2492 **8.25.2 Property definition**

2493 Table 49 provides the detailed per Property mapping for "onem2m.m.energyconsumption".

2494 **Table 49 – The property mapping for "onem2m.m.energyconsumption".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
significantDigits		oic.r.energy.consumption	This is not needed in OCF as only the absolute energy consumption is tracked.	significantDigits = 0
roundingEnergyConsumption		oic.r.energy.consumption	This is not needed in OCF as only the absolute energy consumption is tracked.	roundingEnergyConsumption = oic.r.energy.consumption.energy

voltage	oic.r.energy.electrical	oic.r.energy.electrical.voltage = voltage	voltage = oic.r.energy.electrical.voltage
frequency	oic.r.energy.electrical	oic.r.energy.electrical.frequency = frequency	frequency = oic.r.energy.electrical.frequency
multiplyingFactors	oic.r.energy.consumption	This is not needed in OCF as only the absolute energy consumption is tracked.	multiplyingFactors = 1
absoluteEnergyConsumption	oic.r.energy.consumption	oic.r.energy.consumption.energy = absoluteEnergyConsumption	absoluteEnergyConsumption = oic.r.energy.consumption.energy
current	oic.r.energy.electrical	oic.r.energy.electrical.current = current	current = oic.r.energy.electrical.current
Power	oic.r.energy.consumption	oic.r.energy.consumption.power = Power;	Power = oic.r.energy.consumption.power

2495 Table 50 provides the details of the Properties that are part of "onem2m.m.energyconsumption".

2496

**Table 50 – The properties of "onem2m.m.energyconsumption".**

oneM2M Property name	Type	Required	Description
significantDigits	integer	no	The number of effective digits for data.
roundingEnergyConsumption	number	no	This energy consumption data can be calculated by using significantDigits and multiplyingFactors.
voltage	number	no	The voltage of the device. The common unit is volts (V).
frequency	number	no	The frequency of the device. The common unit is hertz (H).

multiplyingFactors	integer	no	The unit for data (multiplying factors)., e.g. 1 kWh, 0,1 kWh, 0,01 kWh etc.
absoluteEnergyConsumption	number	no	The absolute energy consumption, reflecting the real measurement of accumulative energy. The common unit is Watt-hour (Wh).
current	number	no	The current of the device. The common unit is ampere (A).
Power	number	yes	The power of the device. The common unit is Watt (W).

2497 **8.25.3 Derived model definition**

```

2498 {
2499   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.energyconsumption#",
2500   "$schema": "http://json-schema.org/draft-04/schema#",
2501   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2502   "title": "Energy Consumption",
2503   "definitions": {
2504     "onem2m.m.energyconsumption": {
2505       "type": "object",
2506       "properties": {
2507         "Power": {
2508           "type": "number",
2509           "description": "The power of the device. The common unit is Watt (W).",
2510           "x-ocf-conversion": {
2511             "x-ocf-alias": "oic.r.energy.consumption",
2512             "x-to-ocf": [
2513               "oic.r.energy.consumption.power = Power;"
2514             ],
2515             "x-from-ocf": [
2516               "Power = oic.r.energy.consumption.power"
2517             ]
2518           }
2519         },
2520         "absoluteEnergyConsumption": {
2521           "type": "number",
2522           "description": "The absolute energy consumption, reflecting the real measurement of
2523 accumulative energy. The common unit is Watt-hour (Wh).",
2524           "x-ocf-conversion": {
2525             "x-ocf-alias": "oic.r.energy.consumption",
2526             "x-to-ocf": [
2527               "oic.r.energy.consumption.energy = absoluteEnergyConsumption"
2528             ],
2529             "x-from-ocf": [
2530               "absoluteEnergyConsumption = oic.r.energy.consumption.energy"
2531             ]
2532           }
2533         },
2534         "roundingEnergyConsumption": {
2535           "type": "number",
2536           "description": "This energy consumption data can be calculated by using significantDigits
2537 and multiplyingFactors.",

```

```

2538     "x-ocf-conversion": {
2539         "x-ocf-alias": "oic.r.energy.consumption",
2540         "x-to-ocf": [
2541             "This is not needed in OCF as only the absolute energy consumption is tracked."
2542         ],
2543         "x-from-ocf": [
2544             "roundingEnergyConsumption = oic.r.energy.consumption.energy"
2545         ]
2546     },
2547 },
2548 "significantDigits": {
2549     "type": "integer",
2550     "description": "The number of effective digits for data.",
2551     "x-ocf-conversion": {
2552         "x-ocf-alias": "oic.r.energy.consumption",
2553         "x-to-ocf": [
2554             "This is not needed in OCF as only the absolute energy consumption is tracked."
2555         ],
2556         "x-from-ocf": [
2557             "significantDigits = 0"
2558         ]
2559     },
2560 },
2561 "multiplyingFactors": {
2562     "type": "integer",
2563     "description": "The unit for data (multiplying factors)., e.g. 1 kWh, 0,1 kWh, 0,01 kWh
etc.",
2564     "x-ocf-conversion": {
2565         "x-ocf-alias": "oic.r.energy.consumption",
2566         "x-to-ocf": [
2567             "This is not needed in OCF as only the absolute energy consumption is tracked."
2568         ],
2569         "x-from-ocf": [
2570             "multiplyingFactors = 1"
2571         ]
2572     },
2573 },
2574 },
2575 "voltage": {
2576     "type": "number",
2577     "description": "The voltage of the device. The common unit is volts (V).",
2578     "x-ocf-conversion": {
2579         "x-ocf-alias": "oic.r.energy.electrical",
2580         "x-to-ocf": [
2581             "oic.r.energy.electrical.voltage = voltage"
2582         ],
2583         "x-from-ocf": [
2584             "voltage = oic.r.energy.electrical.voltage"
2585         ]
2586     },
2587 },
2588 "current": {
2589     "type": "number",
2590     "description": "The current of the device. The common unit is ampere (A).",
2591     "x-ocf-conversion": {
2592         "x-ocf-alias": "oic.r.energy.electrical",
2593         "x-to-ocf": [
2594             "oic.r.energy.electrical.current = current"
2595         ],
2596         "x-from-ocf": [
2597             "current = oic.r.energy.electrical.current"
2598         ]
2599     },
2600 },
2601 "frequency": {
2602     "type": "number",
2603     "description": "The frequency of the device. The common unit is hertz (H).",
2604     "x-ocf-conversion": {
2605         "x-ocf-alias": "oic.r.energy.electrical",
2606         "x-to-ocf": [
2607             "oic.r.energy.electrical.frequency = frequency"
2608         ],

```

```

2609         "x-from-ocf": [
2610             "frequency = oic.r.energy.electrical.frequency"
2611         ]
2612     }
2613 }
2614 }
2615 }
2616 },
2617 "type": "object",
2618 "allOf": [
2619     {"$ref": "#/definitions/onem2m.m.energyconsumption"}
2620 ],
2621 "required": [ "Power" ]
2622 }
2623

```

2624 **8.26 Energy Generation**

2625 **8.26.1 Derived model**

2626 The derived model: "onem2m.m.energygeneration".

2627 **8.26.2 Property definition**

2628 Table 51 provides the detailed per Property mapping for "onem2m.m.energygeneration".

2629 **Table 51 – The property mapping for "onem2m.m.energygeneration".**

oneM2M Property name	OCF Resource	To OCF	From OCF
multiplyingFactors	oic.r.energy.generation	This is not needed in OCF as only the absolute energy consumption is tracked.	multiplyingFactors = 1
roundingEnergyGeneration	oic.r.energy.generation	This is not needed in OCF as only the absolute energy consumption is tracked.	roundingEnergyConsumption = oic.r.energy.consumption.powerGenerationData
powerGenerationData	oic.r.energy.generation	oic.r.energy.generation.energygenerated = powerGenerationData;	powerGenerationData = oic.r.energy.generation.energygenerated
significantDigits	oic.r.energy.generation	This is not needed in OCF as only the absolute energy consumption is tracked.	significantDigits = 0

2630 Table 52 provides the details of the Properties that are part of "onem2m.m.energygeneration".

2631 **Table 52 – The properties of "onem2m.m.energygeneration".**

oneM2M Property name	Type	Required	Description
multiplyingFactors	number	no	The unit for data (multiplying factors),.

			e.g. 1 kWh, 0,1 kWh, 0,01 kWh etc.
roundingEnergyGeneration	integer	no	This energy generation data can be calculated by using significantFigures and multiplyingFactors.
powerGenerationData	number	no	Amount of instantaneous generation data.
significantDigits	integer	no	The number of effective digits for data.

2632 **8.26.3 Derived model definition**

```

2633 {
2634   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.energygeneration#",
2635   "$schema": "http://json-schema.org/draft-04/schema#",
2636   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2637   "title": "Energy Generation",
2638   "definitions": {
2639     "onem2m.m.energygeneration": {
2640       "type": "object",
2641       "properties": {
2642         "powerGenerationData": {
2643           "type": "number",
2644           "description": "Amount of instantaneous generation data.",
2645           "x-ocf-conversion": {
2646             "x-ocf-alias": "oic.r.energy.generation",
2647             "x-to-ocf": [
2648               "oic.r.energy.generation.energygenerated = powerGenerationData;"
2649             ],
2650             "x-from-ocf": [
2651               "powerGenerationData = oic.r.energy.generation.energygenerated"
2652             ]
2653           }
2654         },
2655         "roundingEnergyGeneration": {
2656           "type": "integer",
2657           "description": "This energy generation data can be calculated by using significantFigures
and multiplyingFactors.",
2658           "x-ocf-conversion": {
2659             "x-ocf-alias": "oic.r.energy.generation",
2660             "x-to-ocf": [
2661               "This is not needed in OCF as only the absolute energy consumption is tracked."
2662             ],
2663             "x-from-ocf": [
2664               "roundingEnergyConsumption = oic.r.energy.consumption.powerGenerationData"
2665             ]
2666           }
2667         }
2668       },
2669       "significantDigits": {
2670         "type": "integer",
2671         "description": "The number of effective digits for data.",
2672         "x-ocf-conversion": {
2673           "x-ocf-alias": "oic.r.energy.generation",
2674           "x-to-ocf": [
2675             "This is not needed in OCF as only the absolute energy consumption is tracked."

```

```

2676     ],
2677     "x-from-ocf": [
2678         "significantDigits = 0"
2679     ]
2680     },
2681 },
2682 "multiplyingFactors": {
2683     "type": "number",
2684     "description": "The unit for data (multiplying factors)., e.g. 1 kWh, 0,1 kWh, 0,01 kWh
etc.",
2685     "x-ocf-conversion": {
2686         "x-ocf-alias": "oic.r.energy.generation",
2687         "x-to-ocf": [
2688             "This is not needed in OCF as only the absolute energy consumption is tracked."
2689         ],
2690     },
2691     "x-from-ocf": [
2692         "multiplyingFactors = 1"
2693     ]
2694     },
2695 }
2696 }
2697 },
2698 "type": "object",
2699 "allOf": [
2700     {"$ref": "#/definitions/onem2m.m.energygeneration"}
2701 ],
2702 "required": [ ]
2703 }
2704 }
2705

```

2706 **8.27 Filter Info**

2707 **8.27.1 Derived model**

2708 The derived model: "onem2m.m.filterinfo".

2709 **8.27.2 Property definition**

2710 Table 53 provides the detailed per Property mapping for "onem2m.m.filterinfo".

2711 **Table 53 – The property mapping for "onem2m.m.filterinfo".**

oneM2M Property name	OCF Resource	To OCF	From OCF
needsReplacement	oic.r.sensor	oic.r.sensor.value = needsReplacement	needsReplacement = oic.r.sensor.value
usedTime	oic.r.consumable	oic.r.consumable.typeofconsumable = "water filter"oic.r.consumable.usedtime = usedTime	usedTime = oic.r.consumable.usedtime
filterLifetime	oic.r.consumable	oic.r.consumable.remaining = filterLifetime	filterLifetime = oic.r.consumable.remaining

2712 Table 54 provides the details of the Properties that are part of "onem2m.m.filterinfo".

Table 54 – The properties of "onem2m.m.filterinfo".

oneM2M name	Property	Type	Required	Description
needsReplacement		boolean	no	This value indicates that the filter needs to be replaced.
usedTime		integer	yes	Cumulative used time in second of a filter.
filterLifetime		integer	no	Percentage life time remaining for the water filter.

### 2714 8.2.7.3 Derived model definition

```

2715 {
2716   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.filterinfo.json#",
2717   "$schema": "http://json-schema.org/draft-04/schema#",
2718   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2719   "title": "Filter Info",
2720   "definitions": {
2721     "onem2m.m.filterinfo": {
2722       "type": "object",
2723       "properties": {
2724         "usedTime": {
2725           "type": "integer",
2726           "description": "Cumulative used time in second of a filter.",
2727           "x-ocf-conversion": {
2728             "x-ocf-alias": "oic.r.consumable",
2729             "x-to-ocf": [
2730               "oic.r.consumable.typeofconsumable = \"water filter\"",
2731               "oic.r.consumable.usedtime = usedTime"
2732             ],
2733             "x-from-ocf": [
2734               "usedTime = oic.r.consumable.usedtime"
2735             ]
2736           }
2737         },
2738         "needsReplacement": {
2739           "type": "boolean",
2740           "description": "This value indicates that the filter needs to be replaced.",
2741           "x-ocf-conversion": {
2742             "x-ocf-alias": "oic.r.sensor",
2743             "x-to-ocf": [
2744               "oic.r.sensor.value = needsReplacement"
2745             ],
2746             "x-from-ocf": [
2747               "needsReplacement = oic.r.sensor.value"
2748             ]
2749           }
2750         },
2751         "filterLifetime": {
2752           "type": "integer",
2753           "description": "Percentage life time remaining for the water filter.",
2754           "x-ocf-conversion": {
2755             "x-ocf-alias": "oic.r.consumable",
2756             "x-to-ocf": [
2757               "oic.r.consumable.remaining = filterLifetime"
2758             ],
2759             "x-from-ocf": [
2760               "filterLifetime = oic.r.consumable.remaining"
2761             ]
2762           }
2763         }
2764       }
2765     }
2766   }

```

```

2762     }
2763   }
2764 }
2765 }
2766 },
2767 "type": "object",
2768 "allOf": [
2769   {"$ref": "#/definitions/onem2m.m.filterinfo"}
2770 ],
2771 "required": [ "usedTime" ]
2772 }
2773

```

2774 **8.28 Foaming**

2775 **8.28.1 Derived model**

2776 The derived model: "onem2m.m.foaming".

2777 **8.28.2 Property definition**

2778 Table 55 provides the detailed per Property mapping for "onem2m.m.foaming".

2779 **Table 55 – The property mapping for "onem2m.m.foaming".**

oneM2M Property name	OCF Resource	To OCF	From OCF
foamingStrength	oic.r.foaming	oic.r.foaming.foamstrength = foamingStrength	foamingStrength = oic.r.foaming.foamstrength

2780 Table 56 provides the details of the Properties that are part of "onem2m.m.foaming".

2781 **Table 56 – The properties of "onem2m.m.foaming".**

oneM2M Property name	Type	Required	Description
foamingStrength	integer	yes	The current strength of foamed milk. A higher value indicates a milk which is more foamed.

2782 **8.28.3 Derived model definition**

```

2783 {
2784   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.foaming.json#",
2785   "$schema": "http://json-schema.org/draft-04/schema#",
2786   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2787   "title": "Foaming",
2788   "definitions": {
2789     "onem2m.m.foaming": {
2790       "type": "object",
2791       "properties": {
2792         "foamingStrength": {
2793           "type": "integer",
2794           "description": "The current strength of foamed milk. A higher value indicates a milk
2795 which is more foamed.",
2796           "x-ocf-conversion": {
2797             "x-ocf-alias": "oic.r.foaming",
2798             "x-to-ocf": [
2799               "oic.r.foaming.foamstrength = foamingStrength"

```

```

2800     ],
2801     "x-from-ocf": [
2802       "foamingStrength = oic.r.foaming.foamstrength"
2803     ]
2804   }
2805 }
2806 }
2807 }
2808 },
2809 "type": "object",
2810 "allOf": [
2811   {"$ref": "#/definitions/onem2m.m.foaming"}
2812 ],
2813 "required": [ "foamingStrength" ]
2814 }
2815

```

2816 **8.29 Grinder**

2817 **8.29.1 Derived model**

2818 The derived model: "onem2m.m.grinder".

2819 **8.29.2 Property definition**

2820 Table 57 provides the detailed per Property mapping for "onem2m.m.grinder".

2821 **Table 57 – The property mapping for "onem2m.m.grinder".**

oneM2M Property name	OCF Resource	To OCF	From OCF
useGrinder	oic.r.switch.binary	oic.r.switch.binary.value = foamingStrength	foamingStrength = oic.r.switch.binary.value
grainsRemaining	oic.r.grinder	oic.r.grinder.remaining = remaining / 20	remaining = oic.r.grinder.remaining * 20
coarseness	oic.r.grinder	oic.r.grinder.coarseness = coarseness	coarseness = oic.r.grinder.coarseness

2822 Table 58 provides the details of the Properties that are part of "onem2m.m.grinder".

2823 **Table 58 – The properties of "onem2m.m.grinder".**

oneM2M Property name	Type	Required	Description
useGrinder	boolean	yes	The current status of the grinder enablement. True indicates enabled, and False indicates not enabled.
grainsRemaining	integer	no	The level of remaining grains in a machine having a grinder e.g.

			remaining coffee beans in the coffee machine grinder.
coarseness	integer	no	The wished coarseness of the solid supplies e.g. coffee beans, after grinding.

2824 **8.29.3 Derived model definition**

```

2825 {
2826   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.grinder.json#",
2827   "$schema": "http://json-schema.org/draft-04/schema#",
2828   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2829   "title": "Grinder",
2830   "definitions": {
2831     "onem2m.m.grinder": {
2832       "type": "object",
2833       "properties": {
2834         "useGrinder": {
2835           "type": "boolean",
2836           "description": "The current status of the grinder enablement. True indicates enabled, and
2837 False indicates not enabled.",
2838           "x-ocf-conversion": {
2839             "x-ocf-alias": "oic.r.switch.binary",
2840             "x-to-ocf": [
2841               "oic.r.switch.binary.value = foamingStrength"
2842             ],
2843             "x-from-ocf": [
2844               "foamingStrength = oic.r.switch.binary.value"
2845             ]
2846           }
2847         },
2848         "coarseness": {
2849           "type": "integer",
2850           "description": "The wished coarseness of the solid supplies e.g. coffee beans, after
2851 grinding.",
2852           "x-ocf-conversion": {
2853             "x-ocf-alias": "oic.r.grinder",
2854             "x-to-ocf": [
2855               "oic.r.grinder.coarseness = coarseness"
2856             ],
2857             "x-from-ocf": [
2858               "coarseness = oic.r.grinder.coarseness"
2859             ]
2860           }
2861         },
2862         "grainsRemaining": {
2863           "type": "integer",
2864           "description": "The level of remaining grains in a machine having a grinder e.g.
2865 remaining coffee beans in the coffee machine grinder.",
2866           "x-ocf-conversion": {
2867             "x-ocf-alias": "oic.r.grinder",
2868             "x-to-ocf": [
2869               "oic.r.grinder.remaining = remaining / 20"
2870             ],
2871             "x-from-ocf": [
2872               "remaining = oic.r.grinder.remaining * 20"
2873             ]
2874           }
2875         }
2876       }
2877     }
2878   },
2879   "type": "object",
2880   "allOf": [

```

```

2881     {"$ref": "#/definitions/onem2m.m.grinder"}
2882   },
2883   "required": [ "useGrinder" ]
2884 }
2885

```

2886 **8.30 Heating Zone**

2887 **8.30.1 Derived model**

2888 The derived model: "onem2m.m.heatingzone".

2889 **8.30.2 Property definition**

2890 Table 59 provides the detailed per Property mapping for "onem2m.m.heatingzone".

2891 **Table 59 – The property mapping for "onem2m.m.heatingzone".**

oneM2M Property name	OCF Resource	To OCF	From OCF
maxHeatingLevel	oic.r.heatingzone	oic.r.heatingzone.maxheatinglevel = maxHeatingLevel	maxHeatingLevel = oic.r.heatingzone.maxheatinglevel
heatingLevel	oic.r.heatingzone	oic.r.heatingzone.heatinglevel = heatingLevel	heatingLevel = oic.r.heatingzone.heatinglevel

2892 Table 60 provides the details of the Properties that are part of "onem2m.m.heatingzone".

2893 **Table 60 – The properties of "onem2m.m.heatingzone".**

oneM2M Property name	Type	Required	Description
maxHeatingLevel	integer	yes	The maximum value allowed for the heating level of the zone
heatingLevel	integer	yes	The current heating level of the zone. The value range is from 0 (indicating that the zone is not heating) up to the maxHeatingLevel

2894 **8.30.3 Derived model definition**

```

2895 {
2896   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.heatingzone.json#",
2897   "$schema": "http://json-schema.org/draft-04/schema#",
2898   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2899   "title": "Heating Zone",
2900   "definitions": {
2901     "onem2m.m.heatingzone": {

```

```

2902     "type": "object",
2903     "properties": {
2904       "heatingLevel": {
2905         "type": "integer",
2906         "description": "The current heating level of the zone. The value range is from 0
2907 (indicating that the zone is not heating) up to the maxHeatingLevel",
2908         "x-ocf-conversion": {
2909           "x-ocf-alias": "oic.r.heatingzone",
2910           "x-to-ocf": [
2911             "oic.r.heatingzone.heatinglevel = heatingLevel"
2912           ],
2913           "x-from-ocf": [
2914             "heatingLevel = oic.r.heatingzone.heatinglevel"
2915           ]
2916         }
2917       },
2918       "maxHeatingLevel": {
2919         "type": "integer",
2920         "description": "The maximum value allowed for the heating level of the zone",
2921         "x-ocf-conversion": {
2922           "x-ocf-alias": "oic.r.heatingzone",
2923           "x-to-ocf": [
2924             "oic.r.heatingzone.maxheatinglevel = maxHeatingLevel"
2925           ],
2926           "x-from-ocf": [
2927             "maxHeatingLevel = oic.r.heatingzone.maxheatinglevel"
2928           ]
2929         }
2930       }
2931     }
2932   },
2933   "type": "object",
2934   "allOf": [
2935     { "$ref": "#/definitions/onem2m.m.heatingzone" }
2936   ],
2937   "required": [ "heatingLevel", "maxHeatingLevel" ]
2938 }
2939
2940

```

2941 **8.31 Height**

2942 **8.31.1 Derived model**

2943 The derived model: "onem2m.m.height".

2944 **8.31.2 Property definition**

2945 Table 61 provides the detailed per Property mapping for "onem2m.m.height".

2946 **Table 61 – The property mapping for "onem2m.m.height".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
height		oic.r.height	oic.r.height.height = heightoic.r.height.units = cm	oneOf

2947 Table 62 provides the details of the Properties that are part of "onem2m.m.height".

Table 62 – The properties of "onem2m.m.height".

oneM2M name	Property	Type	Required	Description
height		number	yes	Measurement of height

2949 **8.31.3 Derived model definition**

```

2950 {
2951   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.height.json#",
2952   "$schema": "http://json-schema.org/draft-04/schema#",
2953   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2954   "title": "Height",
2955   "definitions": {
2956     "onem2m.m.height": {
2957       "type": "object",
2958       "properties": {
2959         "height": {
2960           "type": "number",
2961           "description": "Measurement of height",
2962           "x-ocf-conversion": {
2963             "x-ocf-alias": "oic.r.height",
2964             "x-to-ocf": [
2965               "oic.r.height.height = height",
2966               "oic.r.height.units = cm"
2967             ],
2968             "x-from-ocf": {
2969               "oneOf": [
2970                 {
2971                   "properties": {
2972                     "oic.r.height.units": "string",
2973                     "enum": ["cm"]
2974                   },
2975                   "x-from-ocf": [
2976                     "height = oic.r.height.height"
2977                   ]
2978                 },
2979                 {
2980                   "properties": {
2981                     "oic.r.height.units": "string",
2982                     "enum": ["m"]
2983                   },
2984                   "x-from-ocf": [
2985                     "height = oic.r.height.height*100"
2986                   ]
2987                 },
2988                 {
2989                   "properties": {
2990                     "voic.r.height.units": "string",
2991                     "enum": ["ft"]
2992                   },
2993                   "x-from-ocf": [
2994                     "height = oic.r.height.height*30.48"
2995                   ]
2996                 },
2997                 {
2998                   "properties": {
2999                     "oic.r.height.units": "string",
3000                     "enum": ["in"]
3001                   },
3002                   "x-from-ocf": [
3003                     "height = oic.r.height.height*2.54"
3004                   ]
3005                 }
3006               ]
3007             }
3008           }
3009         }
3010       }
3011     }
3012   }

```

```

3008     }
3009   }
3010 }
3011 }
3012 },
3013 "type": "object",
3014 "allOf": [
3015   {"$ref": "#/definitions/onem2m.m.height"}
3016 ],
3017 "required": [ "height" ]
3018 }

```

### 3019 8.32 Hot Water Supply

#### 3020 8.32.1 Derived model

3021 The derived model: "onem2m.m.hotwatersupply".

#### 3022 8.32.2 Property definition

3023 Table 63 provides the detailed per Property mapping for "onem2m.m.hotwatersupply".

3024 **Table 63 – The property mapping for "onem2m.m.hotwatersupply".**

oneM2M Property name	OCF Resource	To OCF	From OCF
bath	oic.r.switch.binary	oic.r.switch.binary.value = bath	bath = oic.r.switch.binary.value
status	oic.r.sensor	oic.r.sensor.value = status	status = oic.r.sensor.value

3025 Table 64 provides the details of the Properties that are part of "onem2m.m.hotwatersupply".

3026 **Table 64 – The properties of "onem2m.m.hotwatersupply".**

oneM2M Property name	Type	Required	Description
bath	boolean	no	The status of filling bath tub.
status	boolean	yes	The status of watering operation.

#### 3027 8.32.3 Derived model definition

```

3028 {
3029   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.hotwatersupply.json#",
3030   "$schema": "http://json-schema.org/draft-04/schema#",
3031   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3032   "title": "Hot Water Supply",
3033   "definitions": {
3034     "onem2m.m.hotwatersupply": {
3035       "type": "object",
3036       "properties": {
3037         "status": {
3038           "type": "boolean",
3039           "description": "The status of watering operation.",
3040           "x-ocf-conversion": {
3041             "x-ocf-alias": "oic.r.sensor",

```

```

3042         "x-to-ocf": [
3043             "oic.r.sensor.value = status"
3044         ],
3045         "x-from-ocf": [
3046             "status = oic.r.sensor.value"
3047         ]
3048     },
3049 },
3050 "bath": {
3051     "type": "boolean",
3052     "description": "The status of filling bath tub.",
3053     "x-ocf-conversion": {
3054         "x-ocf-alias": "oic.r.switch.binary",
3055         "x-to-ocf": [
3056             "oic.r.switch.binary.value = bath"
3057         ],
3058         "x-from-ocf": [
3059             "bath = oic.r.switch.binary.value"
3060         ]
3061     }
3062 }
3063 }
3064 },
3065 },
3066 "type": "object",
3067 "allOf": [
3068     {"$ref": "#/definitions/onem2m.m.hotwatersupply"}
3069 ],
3070 "required": [ "status" ]
3071 }
3072 }

```

### 3073 8.33 Impact Sensor

#### 3074 8.33.1 Derived model

3075 The derived model: "onem2m.m.impactsensor".

#### 3076 8.33.2 Property definition

3077 Table 65 provides the detailed per Property mapping for "onem2m.m.impactsensor".

3078 **Table 65 – The property mapping for "onem2m.m.impactsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
impactStatus	oic.r.impact sensor	oic.r.impactsensor.impactstat us = impactStatus	impactStatus = oic.r.impactsensor.impactstat us
impactDirectionVertical	oic.r.impact sensor	oic.r.impactsensor.impactdir ectionvertical = impactDirectionVertical	impactDirectionVertical = oic.r.impactsensor.impactdir ectionvertical
impactDirectionHorizontal	oic.r.impact sensor	oic.r.impactsensor.impactdir ectionhorizontal = impactDirectionHorizontal	impactDirectionHorozintal = oic.r.impactsensor.impactdir ectionhorizontal
impactLevel	oic.r.impact sensor	oic.r.impactsensor.impactlev el = impactLevel	impactLevel= oic.r.impactsensor.impactlev el

3079 Table 66 provides the details of the Properties that are part of "onem2m.m.impactsensor".

3080 **Table 66 – The properties of "onem2m.m.impactsensor".**

oneM2M Property name	Type	Required	Description
impactStatus	boolean	no	The impactStatus indicates as follows: (True) A physical impact is detected / (False) Normal status, an impact is not detected
impactDirectionVertical	number	no	The impactDirectionVertical shows a vertical direction where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward increment.
impactDirectionHorizontal	number	no	The impactDirectionHorizontal shows a horizontal direction where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and clockwise increment.
impactLevel	number	no	The impactLevel provides the level of impact which unit is "G" (G-force).

3081 **8.33.3 Derived model definition**

```

3082 {
3083   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.impactsensor.json#",
3084   "$schema": "http://json-schema.org/draft-04/schema#",
3085   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3086   "title": "Impact Sensor",
3087   "definitions": {
3088     "onem2m.m.impactsensor": {
3089       "type": "object",
3090       "properties": {
3091         "impactStatus": {
3092           "type": "boolean",
3093           "description": "The impactStatus indicates as follows: (True) A physical impact is
3094 detected / (False) Normal status, an impact is not detected",
3095           "x-ocf-conversion": {
3096             "x-ocf-alias": "oic.r.impactsensor",
3097             "x-to-ocf": [
3098               "oic.r.impactsensor.impactstatus = impactStatus"
3099             ],
3100             "x-from-ocf": [
3101               "impactStatus = oic.r.impactsensor.impactstatus"
3102             ]
3103           }
3104         }
3105       }
3106     }
3107   }

```

```

3104     },
3105     "impactLevel": {
3106       "type": "number",
3107       "description": "The impactLevel provides the level of impact which unit is \"G\" (G-
3108 force).",
3109       "x-ocf-conversion": {
3110         "x-ocf-alias": "oic.r.impactsensor",
3111         "x-to-ocf": [
3112           "oic.r.impactsensor.impactlevel = impactLevel"
3113         ],
3114         "x-from-ocf": [
3115           "impactLevel= oic.r.impactsensor.impactlevel"
3116         ]
3117       }
3118     },
3119     "impactDirectionHorizontal": {
3120       "type": "number",
3121       "description": "The impactDirectionHorizontal shows a horizontal direction where the
3122 impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and clockwise
3123 increment.",
3124       "x-ocf-conversion": {
3125         "x-ocf-alias": "oic.r.impactsensor",
3126         "x-to-ocf": [
3127           "oic.r.impactsensor.impactdirectionhorizontal = impactDirectionHorizontal"
3128         ],
3129         "x-from-ocf": [
3130           "impactDirectionHorozintal = oic.r.impactsensor.impactdirectionhorizontal"
3131         ]
3132       }
3133     },
3134     "impactDirectionVertical": {
3135       "type": "number",
3136       "description": "The impactDirectionVertical shows a vertical direction where the impact
3137 comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward increment.",
3138       "x-ocf-conversion": {
3139         "x-ocf-alias": "oic.r.impactsensor",
3140         "x-to-ocf": [
3141           "oic.r.impactsensor.impactdirectionvertical = impactDirectionVertical"
3142         ],
3143         "x-from-ocf": [
3144           "impactDirectionVertical = oic.r.impactsensor.impactdirectionvertical"
3145         ]
3146       }
3147     }
3148   }
3149 }
3150 },
3151 "type": "object",
3152 "allOf": [
3153   {"$ref": "#/definitions/onem2m.m.impactsensor"}
3154 ],
3155 "required": [ "impactstatus" ]
3156 }
3157

```

## 3158 8.34 Keep Warm

### 3159 8.34.1 Derived model

3160 The derived model: "onem2m.m.keepwarm".

### 3161 8.34.2 Property definition

3162 Table 67 provides the detailed per Property mapping for "onem2m.m.keepwarm".

3163

**Table 67 – The property mapping for "onem2m.m.keepwarm".**

oneM2M Property name	OCF Resource	To OCF	From OCF
time	oic.r.time.period	oic.r.time.period.interval = time oic.r.time.period.starttime = 0	time = oic.r.time.period.interval

3164 Table 68 provides the details of the Properties that are part of "onem2m.m.keepwarm".

3165

**Table 68 – The properties of "onem2m.m.keepwarm".**

oneM2M name	Property	Type	Required	Description
time		integer	no	The desired duration of 'keep water warm' function. It indicates how long water shall be kept warm e.g. after the boiling in the case of a kettle. The value indicates a time expressed in minutes.

3166

**8.34.3 Derived model definition**

3167

3168

3169

3170

3171

3172

3173

3174

3175

3176

3177

3178

3179

3180

3181

3182

3183

3184

3185

3186

3187

3188

3189

3190

3191

3192

3193

3194

3195

3196

3197

3198

```
{
  "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.keepwarm.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Keep Warm",
  "definitions": {
    "onem2m.m.keepwarm": {
      "type": "object",
      "properties": {
        "time": {
          "type": "integer",
          "description": "The desired duration of 'keep water warm' function. It indicates how long
water shall be kept warm e.g. after the boiling in the case of a kettle. The value indicates a time
expressed in minutes.",
          "x-ocf-conversion": {
            "x-ocf-alias": "oic.r.time.period",
            "x-to-ocf": [
              "oic.r.time.period.interval = time",
              "oic.r.time.period.starttime = 0"
            ],
            "x-from-ocf": [
              "time = oic.r.time.period.interval"
            ]
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "#/definitions/onem2m.m.keepwarm"}
  ]
}
```

```

3199     "required": [ ]
3200 }
3201

```

### 3202 8.35 Keypad

#### 3203 8.35.1 Derived model

3204 The derived model: "onem2m.m.keypad".

#### 3205 8.35.2 Property definition

3206 Table 69 provides the detailed per Property mapping for "onem2m.m.keypad".

3207 **Table 69 – The property mapping for "onem2m.m.keypad".**

oneM2M Property name	OCF Resource	To OCF	From OCF
keyNumber	oic.r.keypadchar	Need to translate between the oneM2M integer value and the OCF enumerated stringif ( keyNumber == 0 ) { oic.r.keypadchar.keyvalue == "0"; }if ( keyNumber == 1 ) { oic.r.keypadchar.keyvalue == "1"; }if ( keyNumber == 2 ) { oic.r.keypadchar.keyvalue == "2"; }if ( keyNumber == 3 ) { oic.r.keypadchar.keyvalue == "3"; }if ( keyNumber == 4 ) { oic.r.keypadchar.keyvalue == "4"; }if ( keyNumber == 5 ) { oic.r.keypadchar.keyvalue == "5"; }if ( keyNumber == 6 ) { oic.r.keypadchar.keyvalue == "6"; }if ( keyNumber == 7 ) { oic.r.keypadchar.keyvalue == "7"; }if ( keyNumber == 8 ) { oic.r.keypadchar.keyvalue == "8"; }if ( keyNumber == 9 ) { oic.r.keypadchar.keyvalue == "9"; }	Need to translate between the OCF enumerated string and the oneM2M integer valueif (oic.r.keypadchar.keyvalue == "0" ) { keyNumber = 0; }if (oic.r.keypadchar.keyvalue == "1" ) { keyNumber = 1; }if (oic.r.keypadchar.keyvalue == "2" ) { keyNumber = 2; }if (oic.r.keypadchar.keyvalue == "3" ) { keyNumber = 3; }if (oic.r.keypadchar.keyvalue == "4" ) { keyNumber = 4; }if (oic.r.keypadchar.keyvalue == "5" ) { keyNumber = 5; }if (oic.r.keypadchar.keyvalue == "6" ) { keyNumber = 6; }if (oic.r.keypadchar.keyvalue == "7" ) { keyNumber = 7; }if (oic.r.keypadchar.keyvalue == "8" ) { keyNumber = 8; }if (oic.r.keypadchar.keyvalue == "9" ) { keyNumber = 9; }

3208 Table 70 provides the details of the Properties that are part of "onem2m.m.keypad".

Table 70 – The properties of "onem2m.m.keypad".

oneM2M name	Property	Type	Required	Description
keyNumber		integer	yes	The number of key.

### 3210 8.35.3 Derived model definition

```

3211 {
3212   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.keypad.json#",
3213   "$schema": "http://json-schema.org/draft-04/schema#",
3214   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3215   "title": "Keypad",
3216   "definitions": {
3217     "onem2m.m.keypad": {
3218       "type": "object",
3219       "properties": {
3220         "keyNumber": {
3221           "type": "integer",
3222           "description": "The number of key.",
3223           "x-ocf-conversion": {
3224             "x-ocf-alias": "oic.r.keypadchar",
3225             "x-to-ocf": [
3226               "Need to translate between the oneM2M integer value and the OCF enumerated string",
3227               "if ( keyNumber == 0 ) { oic.r.keypadchar.keyvalue == \"0\"; }",
3228               "if ( keyNumber == 1 ) { oic.r.keypadchar.keyvalue == \"1\"; }",
3229               "if ( keyNumber == 2 ) { oic.r.keypadchar.keyvalue == \"2\"; }",
3230               "if ( keyNumber == 3 ) { oic.r.keypadchar.keyvalue == \"3\"; }",
3231               "if ( keyNumber == 4 ) { oic.r.keypadchar.keyvalue == \"4\"; }",
3232               "if ( keyNumber == 5 ) { oic.r.keypadchar.keyvalue == \"5\"; }",
3233               "if ( keyNumber == 6 ) { oic.r.keypadchar.keyvalue == \"6\"; }",
3234               "if ( keyNumber == 7 ) { oic.r.keypadchar.keyvalue == \"7\"; }",
3235               "if ( keyNumber == 8 ) { oic.r.keypadchar.keyvalue == \"8\"; }",
3236               "if ( keyNumber == 9 ) { oic.r.keypadchar.keyvalue == \"9\"; }"
3237             ],
3238             "x-from-ocf": [
3239               "Need to translate between the OCF enumerated string and the oneM2M integer value",
3240               "if ( oic.r.keypadchar.keyvalue == \"0\" ) { keyNumber = 0; }",
3241               "if ( oic.r.keypadchar.keyvalue == \"1\" ) { keyNumber = 1; }",
3242               "if ( oic.r.keypadchar.keyvalue == \"2\" ) { keyNumber = 2; }",
3243               "if ( oic.r.keypadchar.keyvalue == \"3\" ) { keyNumber = 3; }",
3244               "if ( oic.r.keypadchar.keyvalue == \"4\" ) { keyNumber = 4; }",
3245               "if ( oic.r.keypadchar.keyvalue == \"5\" ) { keyNumber = 5; }",
3246               "if ( oic.r.keypadchar.keyvalue == \"6\" ) { keyNumber = 6; }",
3247               "if ( oic.r.keypadchar.keyvalue == \"7\" ) { keyNumber = 7; }",
3248               "if ( oic.r.keypadchar.keyvalue == \"8\" ) { keyNumber = 8; }",
3249               "if ( oic.r.keypadchar.keyvalue == \"9\" ) { keyNumber = 9; }"
3250             ]
3251           }
3252         }
3253       }
3254     }
3255   },
3256   "type": "object",
3257   "allOf": [
3258     { "$ref": "#/definitions/onem2m.m.keypad" }
3259   ],
3260   "required": [ "keyNumber" ]
3261 }

```

### 3262 8.36 Liquid Level

#### 3263 8.36.1 Derived model

3264 The derived model: "onem2m.m.liquidlevel".

3265 **8.36.2 Property definition**

3266 Table 71 provides the detailed per Property mapping for "onem2m.m.liquidlevel".

3267 **Table 71 – The property mapping for "onem2m.m.liquidlevel".**

oneM2M Property name	OCF Resource	To OCF	From OCF
liquidLevel	oic.r.liquid.level	oic.r.liquid.level.desiredlevel = liquidLevel * 20	liquidLevel = oic.r.liquid.level.desiredlevel / 20

3268 Table 72 provides the details of the Properties that are part of "onem2m.m.liquidlevel".

3269 **Table 72 – The properties of "onem2m.m.liquidlevel".**

oneM2M Property name	Type	Required	Description
liquidLevel	integer	no	The desired level of liquid

3270 **8.36.3 Derived model definition**

```

3271 {
3272   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.liquidlevel.json#",
3273   "$schema": "http://json-schema.org/draft-04/schema#",
3274   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3275   "title": "Liquid Level",
3276   "definitions": {
3277     "onem2m.m.liquidlevel": {
3278       "type": "object",
3279       "properties": {
3280         "liquidLevel": {
3281           "type": "integer",
3282           "description": "The desired level of liquid",
3283           "x-ocf-conversion": {
3284             "x-ocf-alias": "oic.r.liquid.level",
3285             "x-to-ocf": [
3286               "oic.r.liquid.level.desiredlevel = liquidLevel * 20"
3287             ],
3288             "x-from-ocf": [
3289               "liquidLevel = oic.r.liquid.level.desiredlevel / 20"
3290             ]
3291           }
3292         }
3293       }
3294     },
3295     "type": "object",
3296     "allOf": [
3297       {"$ref": "#/definitions/onem2m.m.liquidlevel"}
3298     ],
3299     "required": [ "liquidlevel" ]
3300   }
3301 }
3302

```

3303 **8.37 Liquid Remaining**

3304 **8.37.1 Derived model**

3305 The derived model: "onem2m.m.liquidremaining".

3306 **8.37.2 Property definition**

3307 Table 73 provides the detailed per Property mapping for "onem2m.m.liquidremaining".

3308 **Table 73 – The property mapping for "onem2m.m.liquidremaining".**

oneM2M Property name	OCF Resource	To OCF	From OCF
liquidRemaining	oic.r.liquid.level	This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion $oic.r.liquid.level.current\ level = liquidRemaining * 20$	This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion $liquidRemaining = oic.r.liquid.level.current\ level / 20$

3309 Table 74 provides the details of the Properties that are part of "onem2m.m.liquidremaining".

3310 **Table 74 – The properties of "onem2m.m.liquidremaining".**

oneM2M Property name	Type	Required	Description
liquidRemaining	integer	yes	The remaining level of liquid

3311 **8.37.3 Derived model definition**

```

3312 {
3313   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.liquidremaining.json#",
3314   "$schema": "http://json-schema.org/draft-04/schema#",
3315   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3316   "title": "Liquid Remaining",
3317   "definitions": {
3318     "onem2m.m.liquidremaining": {
3319       "type": "object",
3320       "properties": {
3321         "liquidRemaining": {
3322           "type": "integer",
3323           "description": "The remaining level of liquid",
3324           "x-ocf-conversion": {
3325             "x-ocf-alias": "oic.r.liquid.level",
3326             "x-to-ocf": [
3327               "This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion",
3328               "oic.r.liquid.level.currentlevel = liquidRemaining * 20"
3329             ],
3330             "x-from-ocf": [
3331               "This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion",
3332               "liquidRemaining = oic.r.liquid.level.currentlevel / 20"
3333             ]
3334           }
3335         }
3336       }
3337     }
3338   },
3339   "type": "object",
3340   "allOf": [
3341     {"$ref": "#/definitions/onem2m.m.liquidremaining"}
3342   ],

```

```

3343     "required": [ "liquidRemaining" ]
3344 }
3345

```

### 3346 8.38 Lock

#### 3347 8.38.1 Derived model

3348 The derived model: "onem2m.m.lock".

#### 3349 8.38.2 Property definition

3350 Table 75 provides the detailed per Property mapping for "onem2m.m.lock".

3351 **Table 75 – The property mapping for "onem2m.m.lock".**

oneM2M Property name	OCF Resource	To OCF	From OCF
lock	oic.r.lock	if lock oic.r.lock.status.lockState = "Locked"if !lock oic.r.lock.status.lockState = "Unlocked"	lock = (oic.r.lock.status.lockState == "Locked")

3352 Table 76 provides the details of the Properties that are part of "onem2m.m.lock".

3353 **Table 76 – The properties of "onem2m.m.lock".**

oneM2M name	Property	Type	Required	Description
lock		boolean	yes	'True' indicates the object is locked, while 'False' indicates the object is not locked.

#### 3354 8.38.3 Derived model definition

```

3355 {
3356   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.lock.json#",
3357   "$schema": "http://json-schema.org/draft-04/schema#",
3358   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3359   "title": "Lock",
3360   "definitions": {
3361     "onem2m.m.lock": {
3362       "type": "object",
3363       "properties": {
3364         "lock": {
3365           "type": "boolean",
3366           "description": "'True' indicates the object is locked, while 'False' indicates the object
3367 is not locked.",
3368           "x-ocf-conversion": {
3369             "x-ocf-alias": "oic.r.lock",
3370             "x-to-ocf": [
3371               "if lock oic.r.lock.status.lockState = \"Locked\"",
3372               "if !lock oic.r.lock.status.lockState = \"Unlocked\"",
3373             ],
3374             "x-from-ocf": [
3375               "lock = (oic.r.lock.status.lockState == \"Locked\")"
3376             ]
3377           }
3378         }
3379       }
3380     }

```

```

3379     }
3380   }
3381 },
3382 "type": "object",
3383 "allOf": [{
3384   "$ref": "#/definitions/onem2m.m.lock"
3385 }],
3386 "required": ["lock"]
3387 }

```

3388 **8.39 Motion Sensor**

3389 **8.39.1 Derived model**

3390 The derived model: "onem2m.m.motionSensor".

3391 **8.39.2 Property definition**

3392 Table 77 provides the detailed per Property mapping for "onem2m.m.motionSensor".

3393 **Table 77 – The property mapping for "onem2m.m.motionSensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
motionSensor	oic.r.sensor.motion	oic.r.sensor.motion.value = alarm	alarm = oic.r.sensor.motion.value
silentTime	oic.r.sensor.props	oic.r.sensor.props.silenttime = silentTime	silentTime = oic.r.sensor.props.silenttime
sensitivity	oic.r.sensor.props	oic.r.sensor.props.sensitivity = sensitivityOCF sensitivity is a number and oneM2M sensitivity is an integer, so this arithmetic assignment works, but an arithmetic conversion may be necessary depending on how the value is interpreted	sensitivity = oic.r.sensor.props.sensitivityOCF sensitivity is a number and the oneM2M is an integer, so arithmetic conversion may be necessary depending on how the value is interpreted

3394 Table 78 provides the details of the Properties that are part of "onem2m.m.motionSensor".

3395 **Table 78 – The properties of "onem2m.m.motionSensor".**

oneM2M Property name	Type	Required	Description
motionSensor	boolean	no	Alarm State
silentTime	integer	no	Silent Time
sensitivity	number	no	Sensitivity

### 3396 8.39.3 Derived model definition

```
3397 {
3398   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.motionsensor.json#",
3399   "$schema": "http://json-schema.org/draft-04/schema#",
3400   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3401   "title": "Motion Sensor",
3402   "definitions": {
3403     "onem2m.m.motionSensor": {
3404       "type": "object",
3405       "properties": {
3406         "motionSensor": {
3407           "type": "boolean",
3408           "description": "Alarm State",
3409           "x-ocf-conversion": {
3410             "x-ocf-alias": "oic.r.sensor.motion",
3411             "x-to-ocf": [
3412               "oic.r.sensor.motion.value = alarm"
3413             ],
3414             "x-from-ocf": [
3415               "alarm = oic.r.sensor.motion.value"
3416             ]
3417           }
3418         },
3419         "silentTime": {
3420           "type": "integer",
3421           "description": "Silent Time",
3422           "x-ocf-conversion": {
3423             "x-ocf-alias": "oic.r.sensor.props",
3424             "x-to-ocf": [
3425               "oic.r.sensor.props.silenttime = silentTime"
3426             ],
3427             "x-from-ocf": [
3428               "silentTime = oic.r.sensor.props.silenttime"
3429             ]
3430           }
3431         },
3432         "sensitivity": {
3433           "type": "number",
3434           "description": "Sensitivity",
3435           "x-ocf-conversion": {
3436             "x-ocf-alias": "oic.r.sensor.props",
3437             "x-to-ocf": [
3438               "oic.r.sensor.props.sensitivity = sensitivity",
3439               "OCF sensitivity is a number and oneM2M sensitivity is an integer, so this arithmetic
3440 assignment works, but an arithmetic conversion may be necessary depending on how the value is
3441 interpreted"
3442             ],
3443             "x-from-ocf": [
3444               "sensitivity = oic.r.sensor.props.sensitivity",
3445               "OCF sensitivity is a number and the oneM2M is an integer, so arithmetic conversion
3446 may be necessary depending on how the value is interpreted"
3447             ]
3448           }
3449         }
3450       }
3451     },
3452     "type": "object",
3453     "allOf": [
3454       {"$ref": "#/definitions/onem2m.m.motionsensor"}
3455     ],
3456     "required": [ "alarm" ]
3457   }
3458 }
3459
```

## 3460 8.40 Open Level

### 3461 8.40.1 Derived model

3462 The derived model: "onem2m.m.openlevel".

3463 **8.40.2 Property definition**

3464 Table 79 provides the detailed per Property mapping for "onem2m.m.openlevel".

3465 **Table 79 – The property mapping for "onem2m.m.openlevel".**

oneM2M Property name	OCF Resource	To OCF	From OCF
openLevel	oic.r.openlevel	oic.r.openlevel.openLevel = openLevel	openLevel = oic.r.openlevel.openLevel
maxLevel	oic.r.openlevel	oic.r.openlevel.range[1] = maxLevel	maxLevel = oic.r.openlevel.range[1]
stepValue	oic.r.openlevel	oic.r.openlevel.increment = stepValue	stepValue = oic.r.openlevel.increment
minLevel	oic.r.openlevel	oic.r.openlevel.range[0] = minLevel	minLevel = oic.r.openlevel.range[0]

3466 Table 80 provides the details of the Properties that are part of "onem2m.m.openlevel".

3467 **Table 80 – The properties of "onem2m.m.openlevel".**

oneM2M name	Property	Type	Required	Description
openLevel		integer	yes	The rounded percentage of the current open level of entity in the range of [0, 100]. 0 percentage shall mean the entity is closed.
maxLevel		integer	no	The maximum value allowed for the "openLevel" status. The default value is 100, which means fully opened.
stepValue		integer	no	The step value used by the "open" and "close" actions.
minLevel		integer	no	The minimum value allowed for the "openLevel" status. The default value is 0.

			which means fully closed.
--	--	--	---------------------------

3468 **8.40.3 Derived model definition**

```

3469 {
3470   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.openlevel.json#",
3471   "$schema": "http://json-schema.org/draft-04/schema#",
3472   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3473   "title": "Open Level",
3474   "definitions": {
3475     "onem2m.m.openlevel": {
3476       "type": "object",
3477       "properties": {
3478         "openLevel": {
3479           "type": "integer",
3480           "description": "The rounded percentage of the current open level of entity in the range
3481 of [0, 100]. 0 percentage shall mean the entity is closed.",
3482           "x-ocf-conversion": {
3483             "x-ocf-alias": "oic.r.openlevel",
3484             "x-to-ocf": [
3485               "oic.r.openlevel.openLevel = openLevel"
3486             ],
3487             "x-from-ocf": [
3488               "openLevel = oic.r.openlevel.openLevel"
3489             ]
3490           }
3491         },
3492         "stepValue": {
3493           "type": "integer",
3494           "description": "The step value used by the \"open\" and \"close\" actions.",
3495           "x-ocf-conversion": {
3496             "x-ocf-alias": "oic.r.openlevel",
3497             "x-to-ocf": [
3498               "oic.r.openlevel.increment = stepValue"
3499             ],
3500             "x-from-ocf": [
3501               "stepValue = oic.r.openlevel.increment"
3502             ]
3503           }
3504         },
3505         "minLevel": {
3506           "type": "integer",
3507           "description": "The minimum value allowed for the \"openLevel\" status. The default value
3508 is 0, which means fully closed.",
3509           "x-ocf-conversion": {
3510             "x-ocf-alias": "oic.r.openlevel",
3511             "x-to-ocf": [
3512               "oic.r.openlevel.range[0] = minLevel"
3513             ],
3514             "x-from-ocf": [
3515               "minLevel = oic.r.openlevel.range[0]"
3516             ]
3517           }
3518         },
3519         "maxLevel": {
3520           "type": "integer",
3521           "description": "The maximum value allowed for the \"openLevel\" status. The default value
3522 is 100, which means fully opened.",
3523           "x-ocf-conversion": {
3524             "x-ocf-alias": "oic.r.openlevel",
3525             "x-to-ocf": [
3526               "oic.r.openlevel.range[1] = maxLevel"
3527             ],
3528             "x-from-ocf": [
3529               "maxLevel = oic.r.openlevel.range[1]"
3530             ]
3531           }
3532         }
3533       }
3534     }
3535   }

```

```

3534     }
3535   },
3536   "type": "object",
3537   "allOf": [
3538     { "$ref": "#/definitions/onem2m.m.openlevel" }
3539   ],
3540   "required": [ "openLevel" ]
3541 }
3542

```

## 3543 8.41 Operation Mode

### 3544 8.41.1 Derived model

3545 The derived model: "onem2m.m.operationmode".

### 3546 8.41.2 Property definition

3547 Table 81 provides the detailed per Property mapping for "onem2m.m.operationmode".

3548 **Table 81 – The property mapping for "onem2m.m.operationmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
startPause	oic.r.switch.binary	oic.r.switch.binary.value = startPause	startPause = oic.r.switch.binary.value

3549 Table 82 provides the details of the Properties that are part of "onem2m.m.operationmode".

3550 **Table 82 – The properties of "onem2m.m.operationmode".**

oneM2M Property name	Type	Required	Description
startPause	boolean	yes	True triggers an operation, and False pauses the operation.

### 3551 8.41.3 Derived model definition

```

3552 {
3553   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.operationmode.json#",
3554   "$schema": "http://json-schema.org/draft-04/schema#",
3555   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3556   "title": "Operation Mode",
3557   "definitions": {
3558     "onem2m.m.operationmode": {
3559       "type": "object",
3560       "properties": {
3561         "startPause": {
3562           "type": "boolean",
3563           "description": "True triggers an operation, and False pauses the operation.",
3564           "x-ocf-conversion": {
3565             "x-ocf-alias": "oic.r.switch.binary",
3566             "x-to-ocf": [
3567               "oic.r.switch.binary.value = startPause"
3568             ],
3569             "x-from-ocf": [
3570               "startPause = oic.r.switch.binary.value"
3571             ]
3572           }
3573         }
3574       }
3575     }
3576   }
3577 }

```

```

3575     }
3576   },
3577   "type": "object",
3578   "allOf": [
3579     { "$ref": "#/definitions/onem2m.m.operationmode" }
3580   ],
3581   "required": [ "startPause" ]
3582 }
3583

```

## 3584 8.42 Overcurrent Sensor

### 3585 8.42.1 Derived model

3586 The derived model: "onem2m.m.overcurrentsensor".

### 3587 8.42.2 Property definition

3588 Table 83 provides the detailed per Property mapping for "onem2m.m.overcurrentsensor".

3589 **Table 83 – The property mapping for "onem2m.m.overcurrentsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
overcurrentStatus	oic.r.sensor	oic.r.sensor.value = overcurrentStatus	overcurrentStatus = oic.r.sensor.value
duration	oic.r.time.period	oic.r.time.period.stoptime = oic.r.time.period.starttime + duration An arithmetic conversion will be necessary to go from string plus integer to string	duration = oic.r.time.period.stoptime - oic.r.time.period.starttime An arithmetic conversion will be necessary to go from string to integer
detectedTime	oic.r.time.period	oic.r.time.period.startTime = detectedTime	detectedTime = oic.r.time.period.startTime

3590 Table 84 provides the details of the Properties that are part of "onem2m.m.overcurrentsensor".

3591 **Table 84 – The properties of "onem2m.m.overcurrentsensor".**

oneM2M Property name	Type	Required	Description
overcurrentStatus	boolean	yes	The overcurrentStatus indicates as follows: (True) An over-current is detected / (False) Normal status, an over-current is not detected
duration	integer	no	The duration the over-current is detected.

			The unit of duration is ms.
detectedTime	string	no	The time the over-current is detected.

### 3592 8.42.3 Derived model definition

```

3593 {
3594   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.overcurrentsensor.json#",
3595   "$schema": "http://json-schema.org/draft-04/schema#",
3596   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3597   "title": "Overcurrent Sensor",
3598   "definitions": {
3599     "onem2m.m.overcurrentsensor": {
3600       "type": "object",
3601       "properties": {
3602         "overcurrentStatus": {
3603           "type": "boolean",
3604           "description": "The overcurrentStatus indicates as follows: (True) An over-current is
3605 detected / (False) Normal status, an over-current is not detected",
3606           "x-ocf-conversion": {
3607             "x-ocf-alias": "oic.r.sensor",
3608             "x-to-ocf": [
3609               "oic.r.sensor.value = overcurrentStatus"
3610             ],
3611             "x-from-ocf": [
3612               "overcurrentStatus = oic.r.sensor.value"
3613             ]
3614           }
3615         },
3616         "detectedTime": {
3617           "type": "string",
3618           "description": "The time the over-current is detected.",
3619           "x-ocf-conversion": {
3620             "x-ocf-alias": "oic.r.time.period",
3621             "x-to-ocf": [
3622               "oic.r.time.period.startTime = detectedTime"
3623             ],
3624             "x-from-ocf": [
3625               "detectedTime = oic.r.time.period.startTime"
3626             ]
3627           }
3628         },
3629         "duration": {
3630           "type": "integer",
3631           "description": "The duration the over-current is detected. The unit of duration is ms.",
3632           "x-ocf-conversion": {
3633             "x-ocf-alias": "oic.r.time.period",
3634             "x-to-ocf": [
3635               "oic.r.time.period.stoptime = oic.r.time.period.starttime + duration",
3636               "An arithmetic conversion will be necessary to go from string plus integer to string"
3637             ],
3638             "x-from-ocf": [
3639               "duration = oic.r.time.period.stoptime - oic.r.time.period.starttime",
3640               "An arithmetic conversion will be necessary to go from string to integer"
3641             ]
3642           }
3643         }
3644       }
3645     }
3646   },
3647   "type": "object",
3648   "allOf": [
3649     {"$ref": "#/definitions/onem2m.m.overcurrentsensor"}
3650   ],
3651   "required": [ "overcurrentStatus" ]
3652 }
3653

```

3654 **8.43 Power Save**

3655 **8.43.1 Derived model**

3656 The derived model: "onem2m.m.powersave".

3657 **8.43.2 Property definition**

3658 Table 85 provides the detailed per Property mapping for "onem2m.m.powersave".

3659 **Table 85 – The property mapping for "onem2m.m.powersave".**

oneM2M Property name	OCF Resource	To OCF	From OCF
powerSaveEnabled	oic.r.switch.binary	oic.r.switch.binary.value = powerSaveEnabled	powerSaveEnabled = oic.r.switch.binary.value

3660 Table 86 provides the details of the Properties that are part of "onem2m.m.powersave".

3661 **Table 86 – The properties of "onem2m.m.powersave".**

oneM2M Property name	Type	Required	Description
powerSaveEnabled	boolean	yes	The current status of the Power Saving Mode. True indicates enabled, and false indicates not enabled.

3662 **8.43.3 Derived model definition**

```

3663 {
3664   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.powersave.json#",
3665   "$schema": "http://json-schema.org/draft-04/schema#",
3666   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3667   "title": "Power Save",
3668   "definitions": {
3669     "onem2m.m.powersave": {
3670       "type": "object",
3671       "properties": {
3672         "powerSaveEnabled": {
3673           "type": "boolean",
3674           "description": "The current status of the Power Saving Mode. True indicates enabled, and
3675 false indicates not enabled.",
3676           "x-ocf-conversion": {
3677             "x-ocf-alias": "oic.r.switch.binary",
3678             "x-to-ocf": [
3679               "oic.r.switch.binary.value = powerSaveEnabled"
3680             ],
3681             "x-from-ocf": [
3682               "powerSaveEnabled = oic.r.switch.binary.value"
3683             ]
3684           }
3685         }
3686       }
3687     }
3688   },
3689   "type": "object",
3690   "allOf": [
3691     {"$ref": "#/definitions/onem2m.m.powersave"}
3692   ],

```

```

3693     "required": [ "powerSaveEnabled" ]
3694 }
3695

```

## 3696 8.44 Print Queue

### 3697 8.44.1 Derived model

3698 The derived model: "onem2m.m.printqueue".

### 3699 8.44.2 Property definition

3700 Table 87 provides the detailed per Property mapping for "onem2m.m.printqueue".

3701 **Table 87 – The property mapping for "onem2m.m.printqueue".**

oneM2M Property name	OCF Resource	To OCF	From OCF
uri	oic.r.printer.queue	For each item in the array of queue items from onem2m.m.printqueueoic.r.print.queue item[i].uri = uri[i]	For each item in the array of queue items from oic.r.printer.queueuri[i] = oic.r.print.queueitem[i].uri
printingState	oic.r.printer.queue	For each item in the array of queue items from onem2m.m.printqueueoic.r.print.queue item[i].status = printingStatus[i]	For each item in the array of queue items from oic.r.printer.queueprintingStatus[i] = oic.r.print.queueitem[i].status

3702 Table 88 provides the details of the Properties that are part of "onem2m.m.printqueue".

3703 **Table 88 – The properties of "onem2m.m.printqueue".**

oneM2M name	Property	Type	Required	Description
uri		string	yes	The URI of the printing file.
printingState		string	yes	The printingState is indicating the status of the printing file.

### 3704 8.44.3 Derived model definition

```

3705 {
3706   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.printqueue.json#",
3707   "$schema": "http://json-schema.org/draft-04/schema#",
3708   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3709   "title": "Print Queue",
3710   "definitions": {
3711     "onem2m.m.printqueue": {
3712       "type": "object",
3713       "properties": {
3714         "uri": {
3715           "type": "string",

```

```

3716     "description": "The URI of the printing file.",
3717     "x-ocf-conversion": {
3718       "x-ocf-alias": "oic.r.printer.queue",
3719       "x-to-ocf": [
3720         "For each item in the array of queue items from onem2m.m.printqueue",
3721         "oic.r.print.queueitem[i].uri = uri[i]"
3722       ],
3723       "x-from-ocf": [
3724         "For each item in the array of queue items from oic.r.printer.queue",
3725         "uri[i] = oic.r.print.queueitem[i].uri"
3726       ]
3727     }
3728   },
3729   "printingState": {
3730     "type": "string",
3731     "description": "The printingState is indicating the status of the printing file.",
3732     "x-ocf-conversion": {
3733       "x-ocf-alias": "oic.r.printer.queue",
3734       "x-to-ocf": [
3735         "For each item in the array of queue items from onem2m.m.printqueue",
3736         "oic.r.print.queueitem[i].status = printingStatus[i]"
3737       ],
3738       "x-from-ocf": [
3739         "For each item in the array of queue items from oic.r.printer.queue",
3740         "printingStatus[i] = oic.r.print.queueitem[i].status"
3741       ]
3742     }
3743   }
3744 }
3745 }
3746 },
3747 "type": "object",
3748 "allOf": [
3749   {"$ref": "#/definitions/onem2m.m.printqueue"}
3750 ],
3751 "required": [ "uri", "printingState" ]
3752 }

```

## 3753 8.45 Push Button

### 3754 8.45.1 Derived model

3755 The derived model: "onem2m.m.pushbutton".

### 3756 8.45.2 Property definition

3757 Table 89 provides the detailed per Property mapping for "onem2m.m.pushbutton".

3758 **Table 89 – The property mapping for "onem2m.m.pushbutton".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
pushed		oic.r.button	oic.r.button.value = pushed	pushed = oic.r.button.value

3759 Table 90 provides the details of the Properties that are part of "onem2m.m.pushbutton".

3760 **Table 90 – The properties of "onem2m.m.pushbutton".**

oneM2M name	Property	Type	Required	Description

pushed	boolean	yes	This data point indicates the press of the button.
--------	---------	-----	--

3761 **8.45.3 Derived model definition**

```

3762 {
3763   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.pushbutton.json#",
3764   "$schema": "http://json-schema.org/draft-04/schema#",
3765   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3766   "title": "Push Button",
3767   "definitions": {
3768     "onem2m.m.pushbutton": {
3769       "type": "object",
3770       "properties": {
3771         "pushed": {
3772           "type": "boolean",
3773           "description": "This data point indicates the press of the button.",
3774           "x-ocf-conversion": {
3775             "x-ocf-alias": "oic.r.button",
3776             "x-to-ocf": [
3777               "oic.r.button.value = pushed"
3778             ],
3779             "x-from-ocf": [
3780               "pushed = oic.r.button.value"
3781             ]
3782           }
3783         }
3784       }
3785     }
3786   },
3787   "type": "object",
3788   "allOf": [{
3789     "$ref": "#/definitions/onem2m.m.pushbutton"
3790   }],
3791   "required": ["pushed"]
3792 }
3793

```

3794 **8.46 Refrigeration**

3795 **8.46.1 Derived model**

3796 The derived model: "onem2m.m.refrigeration".

3797 **8.46.2 Property definition**

3798 Table 91 provides the detailed per Property mapping for "onem2m.m.refrigeration".

3799 **Table 91 – The property mapping for "onem2m.m.refrigeration".**

oneM2M Property name	OCF Resource	To OCF	From OCF
defrost	oic.r.refrigeration	oic.r.refrigeration.defrost = defrost	defrost = oic.r.refrigeration.defrost
rapidCool	oic.r.refrigeration	oic.r.refrigeration.rapidCool = rapidCool	rapidCool = oic.r.refrigeration.rapidCool

rapidFreeze	oic.r.refrigeration	oic.r.refrigeration.rapidFreeze = rapidFreeze	rapidFreeze = oic.r.refrigeration.rapidFreeze
-------------	---------------------	---	---

3800 Table 92 provides the details of the Properties that are part of "onem2m.m.refrigeration".

3801 **Table 92 – The properties of "onem2m.m.refrigeration".**

oneM2M name	Property	Type	Required	Description
defrost		boolean	no	Controls the defrost cycle. "True" indicates active, "False" indicates inactive.
rapidCool		boolean	no	Controls the rapid cool capability. "True" indicates active, "False" indicates inactive.
rapidFreeze		boolean	no	Controls the rapid freeze capability. "True" indicates active, "False" indicates inactive.

3802 **8.46.3 Derived model definition**

```

3803 {
3804   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.refrigeration.json#",
3805   "$schema": "http://json-schema.org/draft-04/schema#",
3806   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3807   "title": "Refrigeration",
3808   "definitions": {
3809     "onem2m.m.refrigeration": {
3810       "type": "object",
3811       "properties": {
3812         "rapidFreeze": {
3813           "type": "boolean",
3814           "description": "Controls the rapid freeze capability. \"True\" indicates active,
3815 \"False\" indicates inactive.",
3816           "x-ocf-conversion": {
3817             "x-ocf-alias": "oic.r.refrigeration",
3818             "x-to-ocf": [
3819               "oic.r.refrigeration.rapidFreeze = rapidFreeze"
3820             ],
3821             "x-from-ocf": [
3822               "rapidFreeze = oic.r.refrigeration.rapidFreeze"
3823             ]
3824           }
3825         },
3826         "rapidCool": {
3827           "type": "boolean",
3828           "description": "Controls the rapid cool capability. \"True\" indicates active, \"False\"
3829 indicates inactive.",
3830           "x-ocf-conversion": {
3831             "x-ocf-alias": "oic.r.refrigeration",
3832             "x-to-ocf": [
3833               "oic.r.refrigeration.rapidCool = rapidCool"

```

```

3834     ],
3835     "x-from-ocf": [
3836         "rapidCool = oic.r.refrigeration.rapidCool"
3837     ]
3838     },
3839 },
3840 "defrost": {
3841     "type": "boolean",
3842     "description": "Controls the defrost cycle. \"True\" indicates active, \"False\"
3843 indicates inactive.",
3844     "x-ocf-conversion": {
3845         "x-ocf-alias": "oic.r.refrigeration",
3846         "x-to-ocf": [
3847             "oic.r.refrigeration.defrost = defrost"
3848         ],
3849         "x-from-ocf": [
3850             "defrost = oic.r.refrigeration.defrost"
3851         ]
3852     }
3853 }
3854 }
3855 },
3856 },
3857 "type": "object",
3858 "allOf": [
3859     {"$ref": "#/definitions/onem2m.m.refrigeration"}
3860 ],
3861 "required": [ ]
3862 }
3863

```

## 3864 8.47 Relative Humidity

### 3865 8.47.1 Derived model

3866 The derived model: "onem2m.m.relativeHumidity".

### 3867 8.47.2 Property definition

3868 Table 93 provides the detailed per Property mapping for "onem2m.m.relativeHumidity".

3869 **Table 93 – The property mapping for "onem2m.m.relativeHumidity".**

oneM2M Property name	OCF Resource	To OCF	From OCF
relativeHumidity	oic.r.humidity	oic.r.humidity.humidity = int(relativeHumidity)	relativeHumidity = float(oic.r.humidity.humidity)
desiredHumidity	oic.r.humidity	oic.r.humidity.desiredhumidity = int(desiredHumidity)	desiredHumidity = float(oic.r.humidity.desiredhumidity)

3870 Table 94 provides the details of the Properties that are part of "onem2m.m.relativeHumidity".

3871 **Table 94 – The properties of "onem2m.m.relativeHumidity".**

oneM2M Property name	Type	Required	Description
relativeHumidity	number	yes	The measurement of the relative humidity

			value; the unit of measure is percentage
desiredHumidity	number	no	Desired value for humidity. This data point indicates the desired humidity

3872 **8.47.3 Derived model definition**

```

3873 {
3874   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.relativeHumidity.json#",
3875   "$schema": "http://json-schema.org/draft-04/schema#",
3876   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3877   "title": "Relative Humidity",
3878   "definitions": {
3879     "onem2m.m.relativeHumidity": {
3880       "type": "object",
3881       "properties": {
3882         "relativeHumidity": {
3883           "type": "number",
3884           "description": "The measurement of the relative humidity value; the unit of measure is
3885 percentage",
3886           "x-ocf-conversion": {
3887             "x-ocf-alias": "oic.r.humidity",
3888             "x-to-ocf": [
3889               "oic.r.humidity.humidity = int(relativeHumidity)"
3890             ],
3891             "x-from-ocf": [
3892               "relativeHumidity = float(oic.r.humidity.humidity)"
3893             ]
3894           }
3895         },
3896         "desiredHumidity": {
3897           "type": "number",
3898           "description": "Desired value for humidity. This data point indicates the desired
3899 humidity",
3900           "x-ocf-conversion": {
3901             "x-ocf-alias": "oic.r.humidity",
3902             "x-to-ocf": [
3903               "oic.r.humidity.desiredhumidity = int(desiredHumidity)"
3904             ],
3905             "x-from-ocf": [
3906               "desiredHumidity = float(oic.r.humidity.desiredhumidity)"
3907             ]
3908           }
3909         }
3910       }
3911     }
3912   },
3913   "type": "object",
3914   "allOf": [
3915     {"$ref": "#/definitions/onem2m.m.relativeHumidity"}
3916   ],
3917   "required": [ "relativeHumidity" ]
3918 }

```

3919 **8.48 Robot Cleaner Job Mode**

3920 **8.48.1 Derived model**

3921 The derived model: "onem2m.m.robotcleanerjobmode".

3922 **8.48.2 Property definition**

3923 Table 95 provides the detailed per Property mapping for "onem2m.m.robotcleanerjobmode".

Table 95 – The property mapping for "onem2m.m.robotcleanerjobmode".

oneM2M Property name	OCF Resource	To OCF	From OCF
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre>jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3</pre>
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre>if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "zigzag"; } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "sectored"; } if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "spot"; } else { oic.r.operational.state.currentJobState == "unknown"; }</pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre>if (oic.r.operational.state.currentJobState == "zigzag" ) { currentJobMode = 1; } if (oic.r.operational.state.currentJobState == "sectored" ) { currentJobMode = 2; } if (oic.r.operational.state.currentJobState == "spot" ) { currentJobMode = 3; } else { currentJobMode = 0; }</pre>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value <pre>if (oic.r.operational.state.currentJobState == "zigzag" ) { currentJobModeName = "zigzag"; } if (oic.r.operational.state.currentJobState == "sectored" ) { currentJobModeName = "sectorBase"; } if (oic.r.operational.state.currentJobState == "spot" ) { currentJobModeName = "spot"; } else { currentJobModeName = ""; }</pre>

3925 Table 96 provides the details of the Properties that are part of "onem2m.m.robotcleanerjobmode".

**Table 96 – The properties of "onem2m.m.robotcleanerjobmode".**

oneM2M name	Property	Type	Required	Description
jobModes		array	yes	List of possible job states the device supports
currentJobMode		integer	yes	Currently active job mode.
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.

### 3927 8.48.3 Derived model definition

```

3928 {
3929   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.robotcleanerjobmode.json#",
3930   "$schema": "http://json-schema.org/draft-04/schema#",
3931   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3932   "title": "Robot Cleaner Job Mode",
3933   "definitions": {
3934     "onem2m.m.robotcleanerjobmode": {
3935       "type": "object",
3936       "properties": {
3937         "currentJobMode": {
3938           "type": "integer",
3939           "description": "Currently active job mode.",
3940           "x-ocf-conversion": {
3941             "x-ocf-alias": "oic.r.operational.state",
3942             "x-to-ocf": [
3943               "Need to translate between the oneM2M integer value and the OCF operational state
3944 enumerated string",
3945               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
3946 \"zigzag\"; }",
3947               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
3948 \"sectored\"; }",
3949               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
3950 \"spot\"; }",
3951               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
3952             ],
3953             "x-from-ocf": [
3954               "Need to translate between the OCF operational state enumerated string and the oneM2M
3955 integer value",
3956               "if ( oic.r.operational.state.currentJobState == \"zigzag\" ) { currentJobMode =
3957 1; }",
3958               "if ( oic.r.operational.state.currentJobState == \"sectored\" ) { currentJobMode =
3959 2; }",
3960               "if ( oic.r.operational.state.currentJobState == \"spot\" { currentJobMode = 3; }",
3961               "else { currentJobMode = 0; }"
3962             ]
3963           }
3964         },
3965         "currentJobModeName": {
3966           "type": "string",
3967           "description": "Name of current job mode in string. This can be used when currentJobMode
3968 is vendor-specific.",
3969           "x-ocf-conversion": {
3970             "x-ocf-alias": "oic.r.operational.state",
3971             "x-to-ocf": [

```

```

3972         "This value does not exist in OCF as it is already accommodated in the currentJobMode
3973 property."
3974     ],
3975     "x-from-ocf": [
3976         "Need to translate between the OCF operational state enumerated string and the oneM2M
3977 string value",
3978         "if (oic.r.operational.state.currentJobState == \"zigzag\" ) { currentJobModeName =
3979 \"zigzag\"; }",
3980         "if (oic.r.operational.state.currentJobState == \"sectored\" ) { currentJobModeName =
3981 \"sectorBase\"; }",
3982         "if (oic.r.operational.state.currentJobState == \"spot\" ) { currentJobModeName =
3983 \"spot\"; }",
3984         "else { currentJobModeName = \"\"; }"
3985     ]
3986 },
3987 },
3988 "jobModes": {
3989     "type": "array",
3990     "description": "List of possible job states the device supports",
3991     "x-ocf-conversion": {
3992         "x-ocf-alias": "oic.r.operational.state",
3993         "x-to-ocf": [
3994             "This does not exist in OCF as all possible operational states are available."
3995         ],
3996         "x-from-ocf": [
3997             "This is an array of integers in oneM2M defined by the current version of the
3998 specification as follows:",
3999             "jobModes[1] = 1",
4000             "jobModes[2] = 2",
4001             "jobModes[3] = 3"
4002         ]
4003     }
4004 }
4005 }
4006 },
4007 },
4008 "type": "object",
4009 "allOf": [
4010     { "$ref": "#/definitions/onem2m.m.airconjobmode" }
4011 ],
4012 "required": [ "currentJobMode", "jobModes" ]
4013 }

```

## 4014 8.49 Steam Closet Job Mode

### 4015 8.49.1 Derived model

4016 The derived model: "onem2m.m.steamclosetjobmode".

### 4017 8.49.2 Property definition

4018 Table 97 provides the detailed per Property mapping for "onem2m.m.steamclosetjobmode".

4019 **Table 97 – The property mapping for "onem2m.m.steamclosetjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "aroma"; } if ( currentJobMode == 2 ) { oic.r.operational.state.curr	Need to translate between the OCF operational state enumerated string and the oneM2M integer value if (oic.r.operational.state.currentJobState == "aroma" ) { currentJobMode = 1; } if (oic.r.operational.state.curr entJobState == "steam" )

		<pre>entJobState == "steam"; }if ( currentJobMode == 3 ) { oic.r.operational.state.curr entJobState == "pure"; }if ( currentJobMode == 4 ) { oic.r.operational.state.curr entJobState == "delicate"; }else { oic.r.operational.state.curr entJobState == "unknown"; }</pre>	<pre>{ currentJobMode = 2; }if (oic.r.operational.state.curr entJobState == "pure" { currentJobMode = 3; }if (oic.r.operational.state.curr entJobState == "delicate" ) { currentJobMode = 4; }else { currentJobMode = 0; }</pre>
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre>jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4</pre>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value if <pre>(oic.r.operational.state.curr entJobState == "aroma" ) { currentJobModeName = "reduceOdor"; }if (oic.r.operational.state.curr entJobState == "steam" ) { currentJobModeName = "steamWrinkle"; }if (oic.r.operational.state.curr entJobState == "pure" { currentJobModeName = "helpClean"; }if (oic.r.operational.state.curr entJobState == "delicate" ) { currentJobModeName = "gentleDry"; }else { currentJobModeName = ""; }</pre>

4020 Table 98 provides the details of the Properties that are part of "onem2m.m.steamclosetjobmode".

4021

**Table 98 – The properties of "onem2m.m.steamclosetjobmode".**

oneM2M name	Property	Type	Required	Description
currentJobMode		integer	yes	Currently active job mode.

jobModes	array	yes	List of possible job states the device supports
currentJobModeName	string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.

4022 **8.49.3 Derived model definition**

```

4023 {
4024   "id": "http://openinterconnect.org/oneM2Mmapping/schemas/oneM2M.m.steamclosetjobmode.json#",
4025   "$schema": "http://json-schema.org/draft-04/schema#",
4026   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4027   "title": "Steam Closet Job Mode",
4028   "definitions": {
4029     "oneM2M.m.steamclosetjobmode": {
4030       "type": "object",
4031       "properties": {
4032         "currentJobMode": {
4033           "type": "integer",
4034           "description": "Currently active job mode.",
4035           "x-ocf-conversion": {
4036             "x-ocf-alias": "oic.r.operational.state",
4037             "x-to-ocf": [
4038               "Need to translate between the oneM2M integer value and the OCF operational state
4039 enumerated string",
4040               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
4041 \"aroma\"; }",
4042               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
4043 \"steam\"; }",
4044               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
4045 \"pure\"; }",
4046               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
4047 \"delicate\"; }",
4048               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
4049             ],
4050             "x-from-ocf": [
4051               "Need to translate between the OCF operational state enumerated string and the oneM2M
4052 integer value",
4053               "if ( oic.r.operational.state.currentJobState == \"aroma\" ) { currentJobMode = 1; }",
4054               "if ( oic.r.operational.state.currentJobState == \"steam\" ) { currentJobMode = 2; }",
4055               "if ( oic.r.operational.state.currentJobState == \"pure\" ) { currentJobMode = 3; }",
4056               "if ( oic.r.operational.state.currentJobState == \"delicate\" ) { currentJobMode =
4057 4; }",
4058               "else { currentJobMode = 0; }"
4059             ]
4060           },
4061         },
4062         "currentJobModeName": {
4063           "type": "string",
4064           "description": "Name of current job mode in string. This can be used when currentJobMode
4065 is vendor-specific.",
4066           "x-ocf-conversion": {
4067             "x-ocf-alias": "oic.r.operational.state",
4068             "x-to-ocf": [
4069               "This value does not exist in OCF as it is already accommodated in the currentJobMode
4070 property."
4071             ],
4072             "x-from-ocf": [
4073               "Need to translate between the OCF operational state enumerated string and the oneM2M
4074 string value",
4075               "if ( oic.r.operational.state.currentJobState == \"aroma\" ) { currentJobModeName =
4076 \"reduceOdor\"; }",
4077               "if ( oic.r.operational.state.currentJobState == \"steam\" ) { currentJobModeName =

```

```

4078  \ "steamWrinkle\"; }",
4079      "if (oic.r.operational.state.currentJobState == \ "pure\ " { currentJobModeName =
4080  \ "helpClean\"; }",
4081      "if (oic.r.operational.state.currentJobState == \ "delicate\ " ) { currentJobModeName =
4082  \ "gentleDry\"; }",
4083      "else { currentJobModeName = \ "\"; }"
4084  ]
4085  }
4086  },
4087  "jobModes": {
4088      "type": "array",
4089      "description": "List of possible job states the device supports",
4090      "x-ocf-conversion": {
4091          "x-ocf-alias": "oic.r.operational.state",
4092          "x-to-ocf": [
4093              "This does not exist in OCF as all possible operational states are available."
4094          ],
4095          "x-from-ocf": [
4096              "This is an array of integers in oneM2M defined by the current version of the
4097  specification as follows:",
4098              "jobModes[1] = 1",
4099              "jobModes[2] = 2",
4100              "jobModes[3] = 3",
4101              "jobModes[4] = 4"
4102          ]
4103      }
4104  }
4105  }
4106  },
4107  },
4108  "type": "object",
4109  "allOf": [
4110      { "$ref": "#/definitions/onem2m.m.airconjobmode" }
4111  ],
4112  "required": [ "currentJobMode", "jobModes" ]
4113  }

```

## 4114 8.50 Temperature

### 4115 8.50.1 Derived model

4116 The derived model: "onem2m.m.temperature".

### 4117 8.50.2 Property definition

4118 Table 99 provides the detailed per Property mapping for "onem2m.m.temperature".

4119 **Table 99 – The property mapping for "onem2m.m.temperature".**

oneM2M Property name	OCF Resource	To OCF	From OCF
stepValue	oic.r.temperat ure	oic.r.temperature.step = stepValue	stepValue = oic.r.temperature.stepotherwise : stepValue = 1
minValue	oic.r.temperat ure	oic.r.temperature.range[ 0] = minValue	minValue = oic.r.temperature.range[0]othe rwise: minValue = -MAXINT
maxValue	oic.r.temperat ure	oic.r.temperature.range[ 1] = maxValue	maxValue =oic.r.temperature.range[1]othe rwise: maxValue = MAXINT

targetTemperature	oic.r.temperature	oic.r.temperature.temperature = targetTemperatureunits = CDuring translation, need to set the description of the multi-instance temperature resource to indicate whether this is the current or target temperature being translated	oneOf
currentTemperature	oic.r.temperature	oic.r.temperature.temperature = currentTemperatureunits = CDuring translation, need to set the description of the multi-instance temperature resource to indicate whether this is the current or target temperature being translated	oneOf

4120 Table 100 provides the details of the Properties that are part of "onem2m.m.temperature".

4121 **Table 100 – The properties of "onem2m.m.temperature".**

oneM2M name	Property	Type	Required	Description
stepValue		number	no	Step value allowed for 'targetTemperature'
minValue		number	no	Minimum value of 'targetTemperature'
maxValue		number	no	Maximum value of 'targetTemperature'
targetTemperature		number	no	The desired temperature to reach
currentTemperature		number	yes	The current temperature

4122 **8.50.3 Derived model definition**

```
4123 {
4124   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.temperature.json#",
4125   "$schema": "http://json-schema.org/draft-04/schema#",
4126   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
```

```

4127     "title": "Temperature",
4128     "definitions": {
4129         "onem2m.m.temperature": {
4130             "type": "object",
4131             "properties": {
4132                 "currentTemperature": {
4133                     "type": "number",
4134                     "description": "The current temperature",
4135                     "x-ocf-conversion": {
4136                         "x-ocf-alias": "oic.r.temperature",
4137                         "x-to-ocf": [
4138                             "oic.r.temperature.temperature = currentTemperature",
4139                             "units = C",
4140                             "During translation, need to set the description of the multi-instance temperature
4141 resource to indicate whether this is the current or target temperature being translated"
4142                         ],
4143                         "x-from-ocf": {
4144                             "oneOf": [
4145                                 {
4146                                     "properties": {
4147                                         "units": "string",
4148                                         "enum": ["C"]
4149                                     },
4150                                     "x-from-ocf": [
4151                                         "currentTemperature = oic.r.temperature.temperature"
4152                                     ]
4153                                 },
4154                                 {
4155                                     "properties": {
4156                                         "units": "string",
4157                                         "enum": ["F"]
4158                                     },
4159                                     "x-from-ocf": [
4160                                         "currentTemperature = (oic.r.temperature.temperature-32)*5/9"
4161                                     ]
4162                                 },
4163                                 {
4164                                     "properties": {
4165                                         "units": "string",
4166                                         "enum": ["K"]
4167                                     },
4168                                     "x-from-ocf": [
4169                                         "currentTemperature = oic.r.temperature.temperature-273.15"
4170                                     ]
4171                                 }
4172                             ]
4173                         }
4174                     }
4175                 },
4176                 "targetTemperature": {
4177                     "type": "number",
4178                     "description": "The desired temperature to reach",
4179                     "x-ocf-conversion": {
4180                         "x-ocf-alias": "oic.r.temperature",
4181                         "x-to-ocf": [
4182                             "oic.r.temperature.temperature = targetTemperature",
4183                             "units = C",
4184                             "During translation, need to set the description of the multi-instance temperature
4185 resource to indicate whether this is the current or target temperature being translated"
4186                         ],
4187                         "x-from-ocf": {
4188                             "oneOf": [
4189                                 {
4190                                     "properties": {
4191                                         "units": "string",
4192                                         "enum": ["C"]
4193                                     },
4194                                     "x-from-ocf": [
4195                                         "targetTemperature = oic.r.temperature.temperature"
4196                                     ]
4197                                 },

```

```

4198         {
4199             "properties": {
4200                 "units": "string",
4201                 "enum": ["F"]
4202             },
4203             "x-from-ocf": [
4204                 "targetTemperature = (oic.r.temperature.temperature-32)*5/9"
4205             ]
4206         },
4207         {
4208             "properties": {
4209                 "units": "string",
4210                 "enum": ["K"]
4211             },
4212             "x-from-ocf": [
4213                 "targetTemperature = oic.r.temperature.temperature-273.15"
4214             ]
4215         }
4216     ]
4217 }
4218 },
4219 },
4220 "minValue": {
4221     "type": "number",
4222     "description": "Minimum value of 'targetTemperature'",
4223     "x-ocf-conversion": {
4224         "x-ocf-alias": "oic.r.temperature",
4225         "x-to-ocf": [
4226             "oic.r.temperature.range[0] = minValue"
4227         ],
4228         "x-from-ocf": [
4229             "minValue = oic.r.temperature.range[0]",
4230             "otherwise: minValue = -MAXINT"
4231         ]
4232     }
4233 },
4234 "maxValue": {
4235     "type": "number",
4236     "description": "Maximum value of 'targetTemperature'",
4237     "x-ocf-conversion": {
4238         "x-ocf-alias": "oic.r.temperature",
4239         "x-to-ocf": [
4240             "oic.r.temperature.range[1] = maxValue"
4241         ],
4242         "x-from-ocf": [
4243             "maxValue =oic.r.temperature.range[1]",
4244             "otherwise: maxValue = MAXINT"
4245         ]
4246     }
4247 },
4248 "stepValue": {
4249     "type": "number",
4250     "description": "Step value allowed for 'targetTemperature'",
4251     "x-ocf-conversion": {
4252         "x-ocf-alias": "oic.r.temperature",
4253         "x-to-ocf": [
4254             "oic.r.temperature.step = stepValue"
4255         ],
4256         "x-from-ocf": [
4257             "stepValue = oic.r.temperature.step",
4258             "otherwise: stepValue = 1"
4259         ]
4260     }
4261 }
4262 }
4263 },
4264 },
4265 "type": "object",
4266 "allOf": [
4267     {"$ref": "#/definitions/onem2m.m.temperature"}
4268 ],

```

4269 "required": [ "currentTemperature" ]  
 4270 }

4271 **8.51 UV Sensor**

4272 **8.51.1 Derived model**

4273 The derived model: "onem2m.m.uvsensor".

4274 **8.51.2 Property definition**

4275 Table 101 provides the detailed per Property mapping for "onem2m.m.uvsensor".

4276 **Table 101 – The property mapping for "onem2m.m.uvsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
uvstatus	oic.r.sensor.radiation.uv	oic.r.sensor.radiation.uv.step = uvstatus	uvstatus = oic.r.sensor.radiation.uv.step
uvvalue	oic.r.sensor.radiation.uv	oic.r.sensor.radiation.uv.measurement = uvvalue	uvvalue = oic.r.sensor.radiation.uv.measurement

4277 Table 102 provides the details of the Properties that are part of "onem2m.m.uvsensor".

4278 **Table 102 – The properties of "onem2m.m.uvsensor".**

oneM2M Property name	Type	Required	Description
uvstatus	integer	no	The "uvStatus" indicates the level of the UV radiation status.
uvvalue	number	yes	The unit of measure of the UV intensity of radiation is "mW/cm2".

4279 **8.51.3 Derived model definition**

```

4280 {
4281   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.uvsensor.json#",
4282   "$schema": "http://json-schema.org/draft-04/schema#",
4283   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4284   "title": "UV Sensor",
4285   "definitions": {
4286     "onem2m.m.uvsensor": {
4287       "type": "object",
4288       "properties": {
4289         "uvvalue": {
4290           "type": "number",
4291           "description": "The unit of measure of the UV intensity of radiation is \"mW/cm2\".",

```

```

4292     "x-ocf-conversion": {
4293         "x-ocf-alias": "oic.r.sensor.radiation.uv",
4294         "x-to-ocf": [
4295             "oic.r.sensor.radiation.uv.measurement = uvvalue"
4296         ],
4297         "x-from-ocf": [
4298             "uvvalue = oic.r.sensor.radiation.uv.measurement"
4299         ]
4300     },
4301 },
4302 "uvstatus": {
4303     "type": "integer",
4304     "description": "The \"uvStatus\" indicates the level of the UV radiation status.",
4305     "x-ocf-conversion": {
4306         "x-ocf-alias": "oic.r.sensor.radiation.uv",
4307         "x-to-ocf": [
4308             "oic.r.sensor.radiation.uv.step = uvstatus"
4309         ],
4310         "x-from-ocf": [
4311             "uvstatus = oic.r.sensor.radiation.uv.step"
4312         ]
4313     }
4314 }
4315 }
4316 },
4317 },
4318 "type": "object",
4319 "allOf": [
4320     {"$ref": "#/definitions/onem2m.m.uvsensor"}
4321 ],
4322 "required": [ "uvvalue" ]
4323 }
4324

```

4325 **8.52 Water Sensor**

4326 **8.52.1 Derived model**

4327 The derived model: "onem2m.m.watersensor".

4328 **8.52.2 Property definition**

4329 Table 103 provides the detailed per Property mapping for "onem2m.m.watersensor".

4330 **Table 103 – The property mapping for "onem2m.m.watersensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
alarm	oic.r.sensor.water	oic.r.sensor.water.value = alarm	alarm = oic.r.sensor.water.value

4331 Table 104 provides the details of the Properties that are part of "onem2m.m.watersensor".

4332 **Table 104 – The properties of "onem2m.m.watersensor".**

oneM2M Property name	Type	Required	Description
alarm	boolean	yes	The detection of water. The alarm is indicated as follows: "True" indicates that water has been

			detected, "False" indicates a normal status, that means that water is not detected.
--	--	--	---

4333 **8.52.3 Derived model definition**

```

4334 {
4335   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.watersensor.json#",
4336   "$schema": "http://json-schema.org/draft-04/schema#",
4337   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4338   "title": "Water Sensor",
4339   "definitions": {
4340     "onem2m.m.watersensor": {
4341       "type": "object",
4342       "properties": {
4343         "alarm": {
4344           "type": "boolean",
4345           "description": "The detection of water. The alarm is indicated as follows: \"True\"
4346 indicates that water has been detected, \"False\" indicates a normal status, that means that water
4347 is not detected.",
4348           "x-ocf-conversion": {
4349             "x-ocf-alias": "oic.r.sensor.water",
4350             "x-to-ocf": [
4351               "oic.r.sensor.water.value = alarm"
4352             ],
4353             "x-from-ocf": [
4354               "alarm = oic.r.sensor.water.value"
4355             ]
4356           }
4357         }
4358       }
4359     }
4360   },
4361   "type": "object",
4362   "allOf": [
4363     {"$ref": "#/definitions/onem2m.m.watersensor"}
4364   ],
4365   "required": [ "alarm" ]
4366 }
4367

```

4368 **8.53 Weight**

4369 **8.53.1 Derived model**

4370 The derived model: "onem2m.m.weight".

4371 **8.53.2 Property definition**

4372 Table 105 provides the detailed per Property mapping for "onem2m.m.weight".

4373 **Table 105 – The property mapping for "onem2m.m.weight".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
weight		oic.r.weight	oic.r.weight.weight = weightoic.r.weight.units = kg	oneOf

4374 Table 106 provides the details of the Properties that are part of "onem2m.m.weight".

Table 106 – The properties of "onem2m.m.weight".

oneM2M name	Property	Type	Required	Description
weight		number	yes	Measurement of weight

4376 **8.53.3 Derived model definition**

```

4377 {
4378   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.weight.json#",
4379   "$schema": "http://json-schema.org/draft-04/schema#",
4380   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4381   "title": "Weight",
4382   "definitions": {
4383     "onem2m.m.weight": {
4384       "type": "object",
4385       "properties": {
4386         "weight": {
4387           "type": "number",
4388           "description": "Measurement of weight",
4389           "x-ocf-conversion": {
4390             "x-ocf-alias": "oic.r.weight",
4391             "x-to-ocf": [
4392               "oic.r.weight.weight = weight",
4393               "oic.r.weight.units = kg"
4394             ],
4395             "x-from-ocf": {
4396               "oneOf": [
4397                 {
4398                   "properties": {
4399                     "oic.r.weight.units": "string",
4400                     "enum": ["kg"]
4401                   },
4402                   "x-from-ocf": [
4403                     "weight = oic.r.weight.weight"
4404                   ]
4405                 },
4406                 {
4407                   "properties": {
4408                     "oic.r.weight.units": "string",
4409                     "enum": ["g"]
4410                   },
4411                   "x-from-ocf": [
4412                     "weight = oic.r.weight.weight/1000"
4413                   ]
4414                 },
4415                 {
4416                   "properties": {
4417                     "oic.r.weight.units": "string",
4418                     "enum": ["lb"]
4419                   },
4420                   "x-from-ocf": [
4421                     "weight = oic.r.weight.weight*0.45"
4422                   ]
4423                 },
4424                 {
4425                   "properties": {
4426                     "oic.r.weight.units": "string",
4427                     "enum": ["oz"]
4428                   },
4429                   "x-from-ocf": [
4430                     "weight = oic.r.weight.weight*0.028"
4431                   ]
4432                 }
4433               ]
4434             }
4435           }
4436         }
4437       }
4438     }
4439   }

```

```
4435     }
4436   }
4437 }
4438 }
4439 },
4440 "type": "object",
4441 "allOf": [
4442   {"$ref": "#/definitions/onem2m.m.weight"}
4443 ],
4444 "required": [ "weight" ]
4445 }
4446
```