

OCF 2.3 – New Resources for Gas Consumption – DMWG CR 2675

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1.1 Calorific Value

1.1.1 Introduction

This Resource describes Properties associated with the energy associated with the consumption of different fuels (including natural gas)

The calorific value is a number

the calorific value is a measure of the available heat energy, used as part of the calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).

1.1.2 Example URI

/CalorificValueResURI

1.1.3 Resource type

The resource type (rt) is defined as: ['oic.r.calorificvalue'].

1.1.4 Swagger 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Calorific Value",
    "version": "v1.1.0-2018",
    "license": {
      "name": "copyright 2018 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CalorificValueResURI" : {
      "get": {
        "description": "This Resource describes Properties associated with the energy associated
with the consumption of different fuels (including natural gas)\nThe calorific value is a
number\nthe calorific value is a measure of the available heat energy, used as part of the
calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.calorificvalue"],
              "id": "unique_example_id",
            }
          }
        }
      }
    }
  }
}
```



```
        "calorific": 39.2
      },
      "schema": { "$ref": "#/definitions/Calorific" }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.r", "oic.r.baseline"]
  }
},
"definitions": {
  "Calorific": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string",
          "enum": ["oic.r.calorificvalue"]
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "calorific": {
        "description": "calorific value of fuel",
        "readOnly": true,
        "type": "number",
        "minimum": 0,
        "exclusiveMinimum": true
      },
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": ["oic.if.baseline", "oic.if.r"],
          "type": "string"
        },
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      }
    }
  },
}
```

```

    "type" : "object",
    "required": ["calorific"]
  }
}
}

```

1.1.5 Property definition

Table 1 The property definitions of the resource with type 'rt' = CalorificValueResURI

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
calorific	number	Yes	Read Only	calorific value of fuel
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource

1.1.6 CRUDN behaviour

Table 2The CRUDN operations of the resource with type 'rt' = CalorificValueResURI

Resource	Create	Read	Update	Delete	Notify
/CalorificValueResURI		get			observe

1.2 Conversion Factor

1.2.1 Introduction

This Resource describes Properties associated with the energy associated with the consumption of different fuels (including natural gas)

The conversion factor is a number used as part of the calculation to convert gas volume to gas energy. The value used for this calculation is generally defined by local regulations and the conversion factor resource is therefore configurable.

Provides the conversion factor used/required as part of the calculation to convert from fuel volume (m3) to fuel energy (kWh).

1.2.2 Example URI

/ConversionFactorResURI

1.2.3 Resource type

The resource type (rt) is defined as: ['oic.r.conversionfactor'].

1.2.4 Swagger 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Conversion Factor",
    "version": "v1.1.0-2018",
    "license": {
      "name": "copyright 2018 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ConversionFactorResURI" : {
      "get": {
        "description": "This Resource describes Properties associated with the energy associated
with the consumption of different fuels (including natural gas)\nThe conversion factor is a number
used as part of the calculation to convert gas volume to gas energy. The value used for this
calculation is generally defined by local regulations and the conversion factor resource is
therefore configurable.\nProvides the conversion factor used/required as part of the calculation to
convert from fuel volume (m3) to fuel energy (kWh).\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.conversionfactor"],
              "id": "unique_example_id",
              "conversion": 1.02264
            },
            "schema": { "$ref": "#/definitions/Conversion" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.r", "oic.if.baseline"]
    }
  }
}
```

```
    },
  },
  "definitions": {
    "Conversion": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string",
            "enum": ["oic.r.conversionfactor"]
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "conversion": {
          "description": "conversion factor to convert a volume of a fuel to energy consumption",
          "readOnly": true,
          "type": "number",
          "minimum": 0,
          "exclusiveMinimum": true
        },
        "precision": {
          "description": "Accuracy granularity of the exposed value",
          "readOnly": true,
          "type": "number"
        },
        "n": {
          "description": "Friendly name of the resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.r"
            ],
            "type": "string"
          },
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        }
      },
      "type": "object",
      "required": ["conversion"]
    }
  }
}
```

1.2.5 Property definition

Table 3 The property definitions of the resource with type 'rt' = ConversionFactorResURI

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
id	string	No	Read Only	Instance ID of this specific resource
rt	array: schema see	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
if	array: schema see	No	Read Only	The interface set supported by this resource
conversion	number	Yes	Read Only	conversion factor to convert a volume of a fuel to energy consumption

1.2.6 CRUDN behaviour

Table 4The CRUDN operations of the resource with type 'rt' = ConversionFactorResURI

Resource	Create	Read	Update	Delete	Notify
/ConversionFactorResURI		get			observe

1.3 Gas Consumption

1.3.1 Introduction

This Resource describes Properties associated with the energy associated with the consumption of natural gas

The gas value is in kilowatt hours [kWh].

The volume value is in metres cubed [m3].

Provides the cumulative gas energy, the cumulative gas volume and the calorific value and conversion factor used/required to convert from gas volume (m3) to gas energy (KWh).

1.3.2 Example URI

/GasConsumptionResURI

1.3.3 Resource type

The resource type (rt) is defined as: ['oic.r.gas.consumption'].

1.3.4 Swagger 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Gas Consumption",
    "version": "v1.1.0-2018",
    "license": {
      "name": "copyright 2018 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
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OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GasConsumptionResURI" : {
      "get": {
        "description": "This Resource describes Properties associated with the energy associated
with the consumption of natural gas\nThe gas value is in kilowatt hours [kWh].\nThe volume value is
in metres cubed [m3].\nProvides the cumulative gas energy, the cumulative gas volume and the
calorific value and conversion factor used/required to convert from gas volume (m3[TB1]) to gas
energy (KWh).\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.gas.consumption"],
              "id": "unique_example_id",
              "gas": 11135.41,
              "volume": 1000.0
            },
            "schema": { "$ref": "#/definitions/Consumption" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Consumption" : {

```



```

"properties": {
  "rt" : {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string",
      "enum": ["oic.r.gas.consumption", "oic.r.value.conditional"]
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "gas" : {
    "description": "gas energy consumed in kWh",
    "readOnly": true,
    "type": "number",
    "minimum": 0
  },
  "precision" : {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "n" : {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "volume" : {
    "description": "gas volume consumed in m3 (metres cubed)",
    "readOnly": true,
    "type": "number",
    "minimum": 0
  },
  "id" : {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if" : {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": ["oic.if.baseline", "oic.if.r"],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  }
},
"type" : "object",
"required": ["gas"]
}
}

```

1.3.5 Property definition

Table 5 The property definitions of the resource with type 'rt' = GasConsumptionResURI

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

rt	array: schema	see	No	Read Only	Resource Type
precision	number		No	Read Only	Accuracy granularity of the exposed value
gas	number		Yes	Read Only	gas energy consumed in kWh
n	string		No	Read Only	Friendly name of the resource
volume	number		No	Read Only	gas volume consumed in m3 (metres cubed)
id	string		No	Read Only	Instance ID of this specific resource
if	array: schema	see	No	Read Only	The interface set supported by this resource

1.3.6 CRUDN behaviour

Table 6The CRUDN operations of the resource with type 'rt' = GasConsumptionResURI

Resource	Create	Read	Update	Delete	Notify
/GasConsumptionResURI		get			observe

1.4 Gas Usage

1.4.1 Introduction

This resource describes a cumulative time-based gas usage query.

The resource is a collection of:

- TimePeriod Resource

- Gas Consumption Resource

Retrieves the Gas usage information as a composite of consumption over time.

1.4.2 Example URI

/GasUsageResURI

1.4.3 Resource type

1.4.4 Swagger 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Gas Usage",
    "version": "v1.1.0-2018",
    "license": {
```

```

    "name": "copyright 2018 Open Connectivity Foundation, Inc. All rights reserved.",
    "x-description": "Redistribution and use in source and binary forms, with or without
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
  }
},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GasUsageResURI?if=oic.if.baseline" : {
    "get": {
      "description": "This resource describes a cumulative time-based gas usage query.\nThe
resource is a collection of:\n
TimePeriod Resource\n
Gas Consumption Resource\n
Retrieves the Gas
usage information as a composite of consumption over time.\n",
      "parameters": [
        {"$ref": "#/parameters/interface-baseline"}
      ],
      "responses": {
        "200": {
          "description": "Success path response for the Resource",
          "x-example": {
            "rt": ["oic.r.gas.usage"],
            "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
            "id": "unique_example_id",
            "resources": [
              {
                "href": "/TimeIntervalResURI",
                "rt": ["oic.r.time.period"],
                "if": ["oic.if.a", "oic.if.baseline"],
                "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
              },
              {
                "href": "/GasConsumptionResURI",
                "rt": ["oic.r.gas.consumption"],
                "if": ["oic.if.s", "oic.if.baseline"],
                "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
              }
            ]
          }
        }
      },
      "schema": { "$ref": "#/definitions/Usage" }
    }
  }
},
"/GasUsageResURI?if=oic.if.ll" : {
  "get": {
    "description": "This resource describes a cumulative time-based gas usage query.\nThe
resource is a collection of:\n
TimePeriod Resource\n
Gas Consumption Resource\n
The collection has
a single instance of a Link per Resource Type.\n",
    "parameters": [
      {"$ref": "#/parameters/interface-ll"}
    ]
  }
}

```

```

    ],
    "responses": {
      "200": {
        "description" : "Success path response for the Resource",
        "x-example":
          [
            {
              "href": "/TimeIntervalResURI",
              "rt": ["oic.r.time.period"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
            },
            {
              "href": "/GasConsumptionResURI",
              "rt": ["oic.r.gas.consumption"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
            }
          ],
        "schema": { "$ref": "#/definitions/links" }
      }
    }
  },
  "/GasUsageResURI?if=oic.if.b" : {
    "get": {
      "description": "This resource describes a cumulative time-based gas usage query.\nThe resource is a collection of:\n TimePeriod Resource\n Gas Consumption Resource\nRetrieves the Gas usage information as a composite of consumption over time.\n",
      "parameters": [
        {"$ref": "#/parameters/interface-b"}
      ],
      "responses": {
        "200": {
          "description" : "Success path response for the Resource",
          "x-example":
            [
              {
                "href": "/TimeIntervalResURI",
                "rep": {
                  "startTime": "2018-01-09T14:30Z",
                  "stopTime": "2018-01-09T14:45Z"
                }
              },
              {
                "href": "/GasConsumptionResURI",
                "rep": {
                  "gas": 11135.41,
                  "volume": 1000.0
                }
              }
            ],
          "schema": { "$ref": "#/definitions/batch" }
        }
      }
    },
    "post": {
      "description": "Sets the current time period. A Client may also post directly to the exposed URL for the Time Period Resource.\n",
      "x-method": ["optional"],
      "parameters": [
        {"$ref": "#/parameters/interface-b"},
        {
          "name": "body",
          "in": "body",

```



```
"required": true,
"schema": { "$ref": "#/definitions/batchupdate" },
"x-example":
[
  {
    "href": "/TimePeriodResURI",
    "rep": {
      "startTime": "2018-01-15T16:30Z",
      "stopTime": "2018-01-16T16:30Z"
    }
  }
]
},
"responses": {
  "200": {
    "description": "Success path response code\n"
  }
}
},
},
"parameters": {
  "interface-all" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
  },
  "interface-baseline" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.baseline"]
  },
  "interface-ll" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.ll"]
  },
  "interface-b" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.b"]
  }
},
"definitions": {
  "links": {
    "type": "array",
    "items": {
      "$ref": "#/definitions/oic.oic-link"
    },
    "minItems": 2,
    "maxItems": 4
  },
  "oic.oic-link": {
    "properties": {
      "if": {
        "description": "The interface set supported by the linked resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.a",

```

```
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "uniqueItems": true,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type of the linked Resource",
    "items": {
      "enum": [
        "oic.r.time.period",
        "oic.r.gas.consumption",
        "oic.r.conversionfactor",
        "oic.r.calorificvalue"
      ],
      "type": "string"
    },
    "minItems": 1,
    "uniqueItems": true,
    "readOnly": true,
    "type": "array"
  },
  "anchor": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/anchor"
  },
  "di": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/di"
  },
  "eps": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/eps"
  },
  "href": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/href"
  },
  "ins": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/ins"
  },
  "p": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/p"
  },
  "rel": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/rel_array"
  },
  "title": {
    "$ref":
    "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
    schema.json#/definitions/title"
  },
  },
```

```
    "type": {
      "$ref":
"https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
schema.json#/definitions/type"
    },
  },
  "required": [
    "href",
    "rt",
    "if"
  ],
  "type": "object"
},
"batch": {
  "title": "Collection Batch Retrieve Format",
  "minItems": 2,
  "maxItems": 4,
  "type": "array",
  "items": {
    "additionalProperties": true,
    "type": "object",
    "properties": {
      "href": {
        "$ref":
"https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
schema.json#/definitions/href"
      },
      "rep": {
        "anyOf": [
          {
            "$ref":
"https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definiti
ons/TimePeriod"
          },
          {
            "$ref":
"https://openconnectivityfoundation.github.io/IoTDataModels/GasConsumptionResURI.swagger.json#/defi
nitions/Consumption"
          },
          {
            "$ref":
"https://openconnectivityfoundation.github.io/IoTDataModels/CalorificValueResURI.swagger.json#/defi
nitions/Calorific"
          },
          {
            "$ref":
"https://openconnectivityfoundation.github.io/IoTDataModels/ConversionFactorResURI.swagger.json#/de
finitions/Conversion"
          }
        ]
      }
    }
  },
  "required": ["href","rep"]
}
},
"batchupdate" : {
  "title": "Collection Batch Update Format",
  "minItems": 1,
  "type": "array",
  "items": {
    "additionalProperties": true,
    "type": "object",
    "properties": {
      "href": {
        "$ref":
```

```

"https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
schema.json#/definitions/href"
    },
    "rep": {
      "$ref":
"https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definiti
ons/TimePeriod"
    }
  }
},
"Usage" : {
  "properties": {
    "rt" : {
      "description": "Resource Type",
      "items": {
        "type": "string",
        "enum": ["oic.r.gas.usage"]
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "rts" : {
      "description": "Allowed Resource Type",
      "items": {
        "type": "string",
        "enum":
["oic.r.gas.consumption","oic.r.time.period","oic.r.calorificvalue","oic.r.conversionfactor"]
      },
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rts-m" : {
      "description": "Mandatory Resource Type",
      "items": {
        "type": "string",
        "enum": ["oic.r.gas.consumption","oic.r.time.period"]
      },
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "n" : {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "id" : {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "resources" : {
      "$ref": "#/definitions/links"
    },
    "if" : {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.ll",
          "oic.if.b",

```



```

    "oic.if.baseline"
  ],
  "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
},
"type" : "object",
"required": ["resources"]
}
}
}

```

1.4.5 Property definition

Table 7 The property definitions of the resource with type 'rt' = GasUsageResURI?if=oic.if.b

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
rt	array: schema see	No	Read Only	Resource Type
if	array: schema see	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
rts	array: schema see	No	Read Only	Allowed Resource Type
rts-m	array: schema see	No	Read Only	Mandatory Resource Type
resources	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema		Read Write	
rep	multiple types: see schema		Read Write	
href	multiple types: see schema	Yes	Read Write	
p	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

rt	array: see schema	Yes	Read Only	Resource Type of the linked Resource
di	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The interface set supported by the linked resource
anchor	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

1.4.6 CRUDN behaviour

Table 8The CRUDN operations of the resource with type 'rt' = GasUsageResURI?if=oic.if.b

Resource	Create	Read	Update	Delete	Notify
/GasUsageResURI		get	post		observe