



# X-Gate

# X-Gate

Configurable gateway device for field integration

## Description

Danfoss X-Gate provides a flexible solution for translating the most common field protocols into Modbus RTU, facilitating integration within the System Manager.

Field protocols supported:

- Modbus RTU or TCP/IP
- BACnet MS/TP or IP
- CANBus

Moreover X-Gate provides northbound integration with Building Management System (BMS) by reading the XML Interface from System Manager and translating into: Modbus IP or BACnet IP.

## Features & benefits

- X-Gate is an advanced Linux based device with the main capability to translate protocols from a “source of data” and make these data (typically data-points) available for a specific “destination of data”
- X-Gate can be easily installed into an electrical panel thanks to the DIN-rail mounting design
- X-Gate has been designed with a modular concept. On the main board there are built-in multiple access channels.
  - 2 independent ethernet card to maintain separate and secure the potential two LAN network connected.
  - 1 RS485 port
  - 1 CANBus port
- X-Gate can accommodate an extra RS485 port as expansion module.
- On the Southbound, X-Gate can source data from the common list of protocols
  - Modbus RTU (or ASCII) or TCP/IP
  - BACNet IP or MS/TP
  - CANBus
- On the Northbound, X-Gate can provide data over a common list of protocols
  - Modbus RTU or TCP/IP
  - BACNet IP
  - SNMP
- X-Gate provides a user-friendly web interface for the full system configuration with access control via account & password and user profile.

## Ordering

### Product code numbers

| Product Name Description | Type      | Code number |
|--------------------------|-----------|-------------|
| X-Gate                   | Accessory | 080G0342    |
| X-Gate                   | Accessory | 080G0343    |



Product details

General data

Table: System resources

|                               |   |
|-------------------------------|---|
| CPU                           | i.MX6UL ARM Cortex A7 Single Core - 528 MHz |
| Operating System              | Linux Yocto                                 |
| Flash                         | 4 GB  |
| RAM                           | 512 MB                                      |
| Real Time Clock (RTC Back-up) | Yes (SuperCAP)                              |
| LEDs                          | 1 - RGB                                     |

Table: Interface

|                 |   |
|-----------------|---|
| Ethernet port   | 2 - 10/100 BaseT                                |
| USB port        | 1 - USB 2.0 OTG (500 mA max., Type C)           |
| RS485 port      | 1 (isolated, Modbus Master/Slave configuration) |
| CAN/CAN-FD port | 1 (isolated)                                    |
| Expansion port  | Yes   |

Table: Ratings

|                     |                                  |
|---------------------|----------------------------------|
| Power supply        | 24 V AC/DC (not isolated) +/-15% |
| Current Consumption | 0.8 A (full load)                |
| Input Protection    | Electronic Fuse                  |

Expansion Module

Expansion modules can be easily fit together with the main X-Gate board thank to the fast-connection design and installed over a DIN-rail bar.

Figure: Expansion module snap-fit

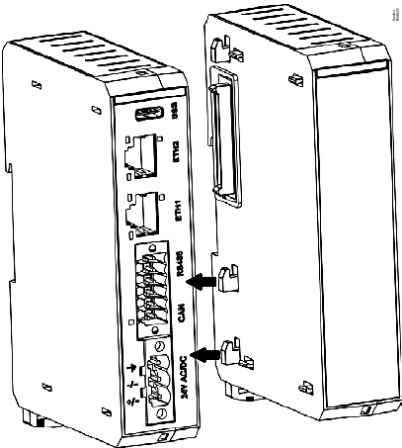


Figure: Input/output list

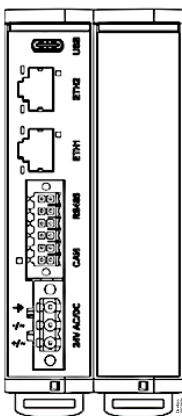
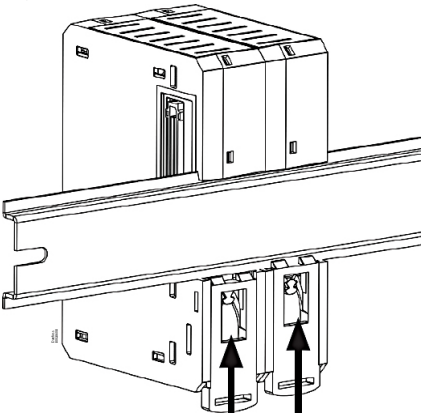


Figure: Din-rail fit



## Performance and environmental conditions

**Table: Environment Conditions**

|                              |                            |
|------------------------------|----------------------------|
| Operating temp               | -20 to +60 °C              |
| Storage temp                 | -30 to +70 °C              |
| Operating / Storage Humidity | 5 – 90% RH, non-condensing |
| Protection Class             | IP20                       |

## Dimensions

**Table: Dimensions and Weight**

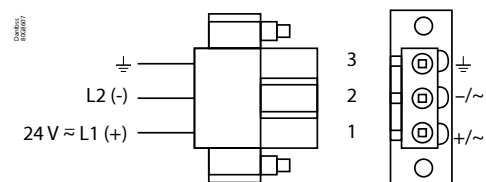
|            |          |
|------------|----------|
| Height (H) | 110 mm   |
| Width (W)  | 25.4 mm  |
| Depth (D)  | 75 mm    |
| Weight     | 0.140 Kg |

## Connections

### Power supply and wiring

X-Gate need a 24 V AC/DC power supply. X-Gate packaging does not include the external adapter. Connector is already included in the packaging with the following wiring schema.

**Figure: Power supply wiring schema**



**Table: LED behavior**

|                         |                          |
|-------------------------|--------------------------|
| <b>At startup</b>       |                          |
| Steady Green            | X-Gate starting          |
| Steady Violet           | X-Gate updating          |
| Blinking Green          | X-Gate running           |
| <b>Normal operation</b> |                          |
| Blinking Green          | X-Gate running           |
| Blinking Red            | X-Gate with alarm active |
| Steady Green or Black   | X-Gate rebooting         |

## Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

| Approval type                 | Title                               | Certification body                  | Approval topic |
|-------------------------------|-------------------------------------|-------------------------------------|----------------|
| Export Control Declaration    | <a href="#">X-Gate</a>              | Danfoss                             |                |
| Electrical Safety Certificate | <a href="#">UL E539843</a>          | UL - Underwriters Laboratories inc. | UL-CSA         |
| UK Declaration                | <a href="#">Danfoss UK 084R2108</a> | Danfoss                             | UK RoHS        |

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