Data Sheet

Gateway Unit
Type **X-Gate**

Configurable gateway device for field integration

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

- 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.
- In addition, X-Gate can accommodate a 4G modem as expansion module to establish an independent connection outside the local network.
- 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.

Product specification

Technical Data

Table 1: 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 2: 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 3: Ratings

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

Table 4: 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

Table 5: Dimensions and Weight

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

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.
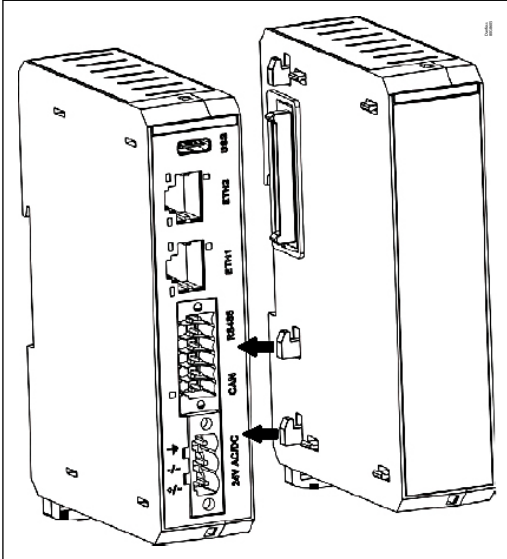
Figure 1: Expansion module snap-fit

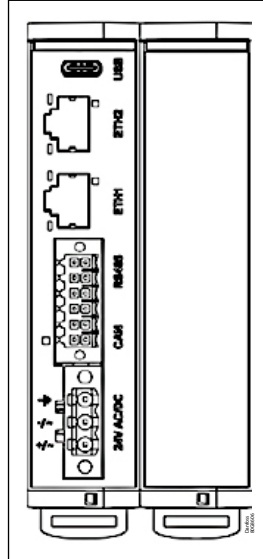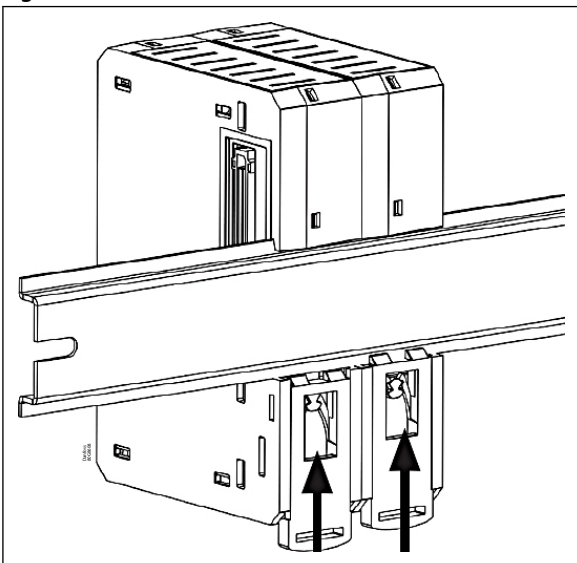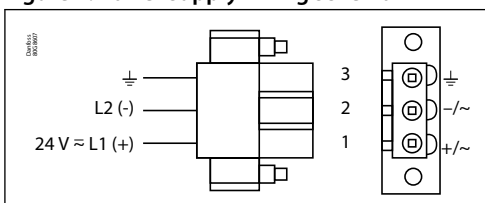**Figure 2: Input/output list**

Figure 3: Din-rail fit

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 4: Power supply wiring schema

LED behavior

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

Ordering

Table 6: Ordering

Type	Description	Code No.
X-Gate	X-Gate main board	080G0342
RS485 Module	X-Gate RS485 Serial expansion module	080G0343

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