GEFRAN

GFX4-MOD
MODBUS RTU SLAVE MODULE

Main characteristics

- *Modbus RTU Slave – Modbus RTU Master*
- *Network address from rotary switches*
- *RS485 isolated interface*
- *Baud Rate*
- *Internal installation*

CE

Code 80399A_01-2021

PROFILE

The GFX4-MOD module can be installed inside GFX4/GFXTERMO4 products and expands communication by means of the Modvus RTU protocol.

The module has two communication channels:

• the first channel is a serial port with Modbus RTU protocol, and connects 32 GFX4/GFXTERMO4 devices (without repeater);

• the second channel is a serial port with Modbus RTU slave protocol, and lets you connect to a Modbus RTU Master.

The node address is assigned by means of the two rotary switches (0...99) on the product that houses the module.

The network Master (typically a PLC) recognizes the slave node by means of this address.

The slave node recognized by the Master consists of the GFX4/GFXTERMO4 that houses the module plus the GFX4/GFXTERMO4 products connected to the Modbus serial port.
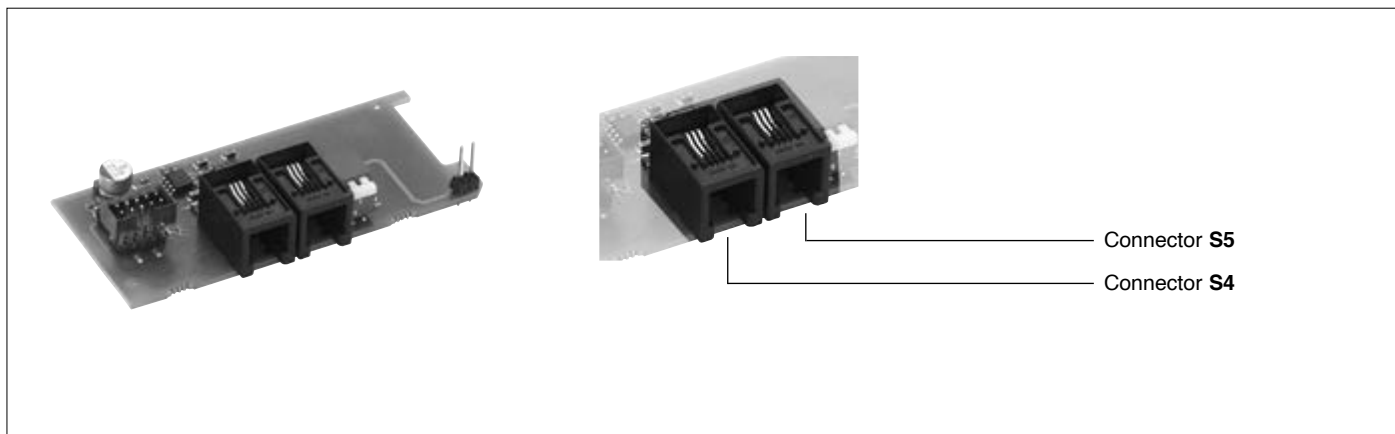
The expansion can be installed when the above-mentioned products are ordered or at a later date.

TECHNICAL DATA

Modbus port	
Protocol	Modbus RTU (master) RS485 serial type, 1500V isolation
Function	Connects GFX4/GFXTERMO4 to Modbus RTU network
Baud rate	Settable on GFX4/GFXTERMO4 module (1200...115200)
Connector	RJ10 4-4
General characteristics	
Dimensions	106x56x17mm (H x L x D)
Installation	Inside module
Weight	15g
Power supply	+24V, 0,5VA max. . taken directly from GFX4/GFXTERMO4 module
Working/storage temperature	0...40°C/-20...70°C
Relative humidity	20...85% RH non-condensing
Ambient conditions of use	Internal use, altitude up to 2000m
Installation	Inside modules (see "INSTRUCTION AND WARNING" manu)
Approvals and certifications	See GFX4/GFXTERMO4 modules

ELECTRICAL CONNECTIONS

Connectors / LEDs

Connector **S5**

Connector **S4**

Connector S4/S5 RJ10 4-4 pin	Nr. Pin	Name	Decription	Note
	1	GND1 (**)	-	(**) Connect the GND signal among Modbus devices with a line distance > 100 m.
	2	Tx/Rx+	Data reception/transmission (A)	
	3	Tx/Rx-	Data reception/transmission (B)	
	4	+V (reserved)	-	
Cable type: flat telephone cable for fin 4-4 conductor 28AWG				

Serial communication time constraints in Modbus RTU

The following time constraints must be complied with in order to allow correct serial data exchange with the device:

Reading Word/Register parameters: Reading N consecutive parameters, with N from 1 to 16, requires a time of almost 50 ms. In this case the following read and write Modbus command, to the same node, must be sent after this interval time.

Writing Word/Register parameters: Writing N consecutive parameters, with N ranging from 1 to 16, if all values (maximum 16) on the device are updated, will take a time of:50ms + N x 80ms(*) with N from 1 to 16.

The times reported refer to the case in which the Baudrate of the serial line (parameter bAu Modbus address 45) is 19200.

(*) If STATUS_W parameters (Modbus address 305) are included in the write request and their value is different from the one currently present in the slave, the time required to write each one will be 240ms (instead of 80ms).

ORDER CODE

GFX4	MOD

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