Monitoring & Control Startkit

Key features

- Hardware kit to connect a PC to a SMW LNB/BDC
- For setup and reading of alarms for troubleshooting and redundancy switching including first input stage (LNA) current monitoring
- Band (LO) switching, LNB conversion gain control and more
- Easy monitoring of parameters like RF output power, Voltage, Current and more...
- Standard Fieldbus RS 485 electrical and MODBUS RTU interface

Description

The Modbus Monitoring & Control Hardware Startkit contains a USB to RS485 transceiver with a 0.2 meter cable and a 2 meter M8 cable for connecting the host (PC) and LNB or BDC with Monitoring & Control option enabled.

After connecting the USB to RS485 transceiver to a host (PC) and the M8 cable to a device you will be able to monitor and control it. See available parameters in the specific models technical specifications (Read (R)/Write(W)) register map.

Modbus software or driver is not included, but for purposes of testing or troubleshooting there is a SMW (M&C) Evaluation Tool available on request. Please note that the Register Maps are specific to each product model.

TECHNICAL SPECIFICATIONS

Register	Functionality
Input Register (R)	Alarm reading, Persistant Alarm, Days of operation, IF output power, Temperatur (C or F), Current monitor, Input voltage, Laser power (if optical output), LNA current, Unit gain offset, Unit Serial number, Unit Software version.
Discrete Inputs (R)	Sum Alarm Activated or not, Active LO ref (Int/Ext), External LO ref. detected, External LO ref. locked, TTL input value, LO locked, 22 kHz detect
Coils (R/W)	Alarm pin output config, Temperature unit (Celcius or Fahrenheit), Legacy control mode (22 kHz or Modbus band switching), GPO output, GPO Mode 1, Persistant alarm reset
Holding Register (R/W)	Slave adress 1-247 (default is 60), Alarm trigger settings, Band Select via Modbus, Unit gain offset, MODBUS EUSART Parity Mode (default is Even), Baud Rate selection (default is 19,2 kbps, 8 bits, 1 stop bit, Even)
Alarm register	LO locked, Ext LO ref. locked, Ext LO ref. detected, LNA failure, Output RF power low, Output power high (saturation), Total current high
Temperature range	Operating: - 40° to + 80° C
Alarm interface	M8 male connector pin 1, Open collector, Open on fault, 3.3 to 24 V, max. 200 mA
M & C interface	M8 male connector pin 2-4
Content	1 pc USB to RS485 transceiver with M8-female connector and M8 (male-male) 2 meter cable

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SMW
SWEDISH MICROWAVE AB

Rev. 11-23-10N

Monitoring & Control Startkit

Technical description

INSTALLATION QUICK GUIDE

In addition to this hardware kit, you need a MODBUS software or driver, often already available in a SCADA system. Modbus software or driver is not included, but for purposes of testing or troubleshooting there is a SMW (M&C) Evaluation Tool available on request. Please note that the Register Maps are specific to each product model and is available for download on the products website.

1. Install software or driver on the host (PC).

2. Connect the USB to RS485 transceiver to the PC and pay attention to which USB/COM port the device get. Connect the other end to the 2 meter M8 cable and that cable to the LNB or BDC. Be aware that the M8 connectors are "keyed" for rotation by the assymetric pin placement.

3. Power up the LNB/BDC and start the software on the PC. Make sure that the software uses correct USB/Com port for the connection to the LNB/BDC (client). Please note! Standard client ID is "60".

4. Adjust settings in the software and read/write to the device according to the specific register map.

More information about the Modbus standard can be found at https://modbus.org/

Accessories

Outdoor cables
Partnumbers:
5 m (male to male), 799160-05
10 m (male to pigtail), 799160-10
20 m (male to male), 799160-20

Y cable 0.3 meter, for chain connection between units
(M8-male to M8-female)
Part number:
799163-003

Y adapter, for chain connection between units
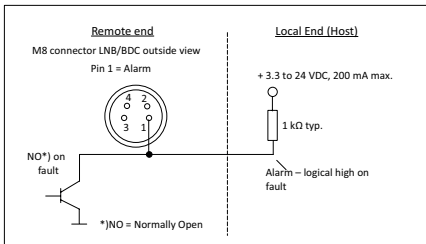(M8-male to 2xM8-female)
Part number:
596132

A & B = RS485, Tx + Rx
C = Common (ground)
D = Cable shield to ground. NOTE! only grounded at one point!
E = TP Cable (twisted pairs), max 600 meter
F = TP Cable, max 20 meter

E = 120 ohm resistor. Needed if cable E is > 30 meter
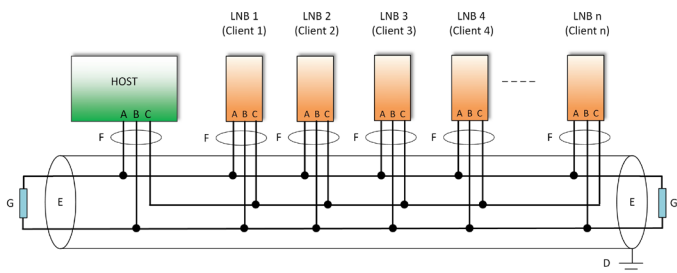
Connector for Monitor & Control
Type: RS485, M8 female, 4 pin, A coded
Functions: Alarm and Monitor & Control
1 = Alarm open collector (max. 200 mA)
2 = A pos+ RS485
3 = B neg- RS485
4 = Common (GND)
5 = Shield

Modbus
https://modbus.org/

Alarm wiring

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