Monitoring & Control Startkit
Key features

- **Complete hardware kit to connect a PC to an SMW LNB/BDC with M&C**
- **For setup and reading of Alarms for troubleshooting and redundancy switching including first input stage (LNA) current monitoring**
- **Functions such as 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 Monitor & Control Start kit contains a USB to RS485 transceiver and a 2 meter M8 cable for connection between the transceiver and a LNB or BDC with Monitor & Control option.

After connecting the USB to RS485 transceiver to a host (PC) and the M8 cable to a unit you will be able to monitor and control it. See available parameters in technical specifications (Read (R)/Write(W)) in the included registers. Besides this kit you need to install a Modbus PC program to be able to monitor and control your unit.

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 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	Interface: Separate M8-connector (B), Open collector, Open on fault, 3.3 to 24 V, max. 200 mA
Monitoring & Control	Via MODBUS RTU RS485 electrical interface, see sep. document for details. NOTE! Mates with M8 male connector. Cable: shielded min. CAT5
Content	1 pc USB to RS485 transciever with M8-female connector, 1 pc M8 cable 2 meter with male connectors

SMW
SWEDISH MICROWAVE AB

Monitoring & Control Startkit
Technical description

CONNECTION QUICK GUIDE

1a. Install a Modbus program in the host (PC). Can be find at internet. Examples are QModMaster and Easyview
1b. Connect the USB to RS485 transceiver and take notice about what USB/COM port the device get. Connect to first end of the 2 meter M8 cable to the transceiver cable.

2. Connect the other end of the 2 meter M8 cable to the SMW LNB or BDC. Pleas notice that the M8 connectors are "keyed" for rotation by the assymetric pin placement.

3. Power up the LNB/BDC and start the Modbus program on the PC. Make sure in the Modbus program that correct USB/Com port is chosen for the connection to the LNB/BDC.

4. Make necessary settings in the Modbus program and read or write to the unit according to the SMW Monitor & Control / Alarm Installation guide.

PLEASE NOTE! Standard client ID is "60"
More information about the Modbus standard can be found at https://modbus.org/

Accessories

20 meter outdoor cable
(M8-male to M8-male)

2 meter indoor cable
(M8-male to M8-male)
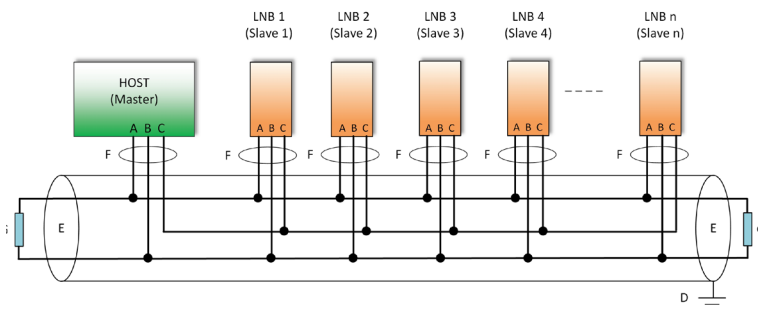
Y cable 0.3 meter, for chain connection between units
(M8-male to M8-male)

Y adapter, for chain connection between units
(2x M8-female to M8-male)

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

https://modbus.org/

Alarm wiring

Remote end
M8 connector LNB/BDC outside view
1 = Alarm (yellow lead at SMW M8 cable)

Local End (Host)
+ 3.3 to 24 VDC, 200 mA max.

1 kΩ typ.

NO on fault

Alarm – logical high on fault