

SWEDISH MICROWAVE

Manual

BDC

General Guidelines

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Scan the QR-code to access our website. Explore our product range, request a quote, read recent news, discover useful resources, and get in touch with our sales team.

SMW.SE



All technical specifications are typical, for specific part number specifications, please contact us. Specifications are subject to change without prior notice. Products from Swedish Microwave AB are made for commercial use.

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1. Description

Swedish Microwave products are a vital component in land, maritime and earth stations in the ground infrastructure for satellite systems.

Our professional LNB, BDC, LNA products and RF distribution system are designed for outdoor use to enable reliable communications even under the toughest conditions worldwide.



2. Safety warnings

Make sure that the supplied voltage at the product connector is within the specification in the product sheet. Account for voltage drop in long cables. Incorrect voltage may affect functionality or damage the product.

The power supply to the product, including the supply cable, must be equipped with protection against over-current and short circuit. The current shall not exceed 1 ampere to prevent the risk of fire.

Make sure that the product and any cable are potential-free before connecting or disconnecting. Otherwise, a voltage discharge into a connector may damage the product. This can be achieved by grounding both the product and cable. Make sure all connections are made before applying power.

Too high RF input signal levels can damage or saturate the product.

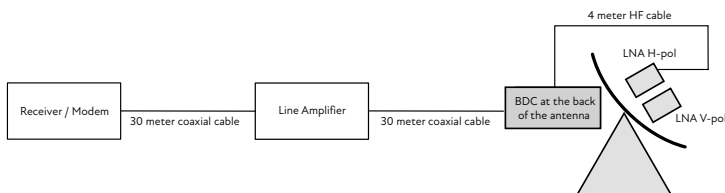


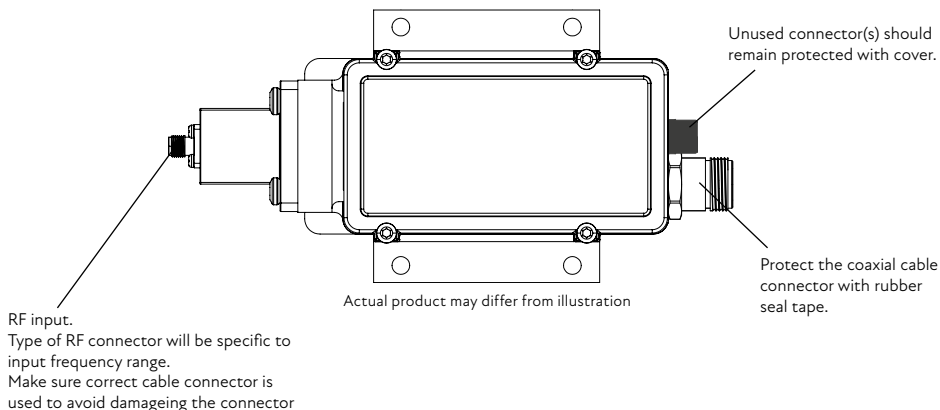
3. Installation instructions

Remove connector caps before installation. Always use the predrilled holes on the integrated mounting plate for installation. Any other means of mounting may void the warranty.

Protect against water penetration. The components are designed for operation in temperatures between -40°C to +80°C. However waveguide input is not waterproof and **MUST BE** protected from moisture and water.

In extreme environments such as close to corrosive sea water or installation in antenna towers where IP67 class protection can be deemed insufficient, it is recommended that appropriate action is taken to ensure reliable operation and longevity.





Connectors

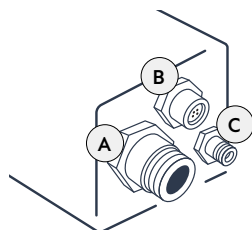


Illustration of connectors

- A** N (female) 50 Ω – IF output, power input, external reference input.
Types available: F (female) 75 Ω or SMA (female) 50 Ω
- B** Optional.
M8 (female) for Alarm and M&C.
RS485, 4-pin, A-key coded.
Optionally power input.
- C** Optional.
SMA (female) for separate external reference and/or power input.

Connector for Alarm, Monitoring & Control



Type:	RS485, M8 (female), 4 pin, A-key coded
Functions:	Alarm, Monitoring & Control, power input
Pin 1 =	Alarm open collector (max. 200 mA)
Pin 2 =	A pos+ RS485
Pin 3 =	B neg- RS485
Pin 4 =	Common (GND)
5 =	Shield



4. Alarm, Monitoring & Control

With remote monitoring and control features, operators can access real-time diagnostics and performance metrics.

Prerequisites

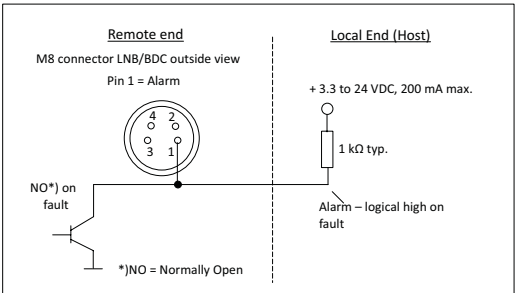
Monitoring & Control function is enabled on select products. The M&C Startkit contains M8 cable (RS-485) and USB Transceiver for connecting host (RTU). Register Map for available (R/W) parameters, please note that the register map is specific to each product model. Download the latest register map from smw.se. Modbus software or driver is not included, but for purposes of testing or troubleshooting the freeware Monitoring & Control (M&C) Evaluation Tool is available on request.

Alarm output

The Alarm output connector pin 1 is an Open collector, Open on fault. 3.3V to 24V max. 200mA. Factory setting is Normally Closed (NC). The alarm output is a sum alarm that trigger:

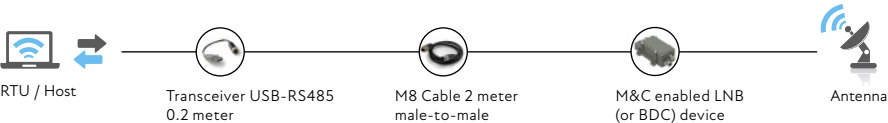
- LO; Locked, External LO reference detected, External LO reference lock
- Total current consumption (>600 mA)
- LNA (built in) failure
- RF power (IF) detector outside limit (outside -57 dBm to -5 dBm)

Alarm wiring



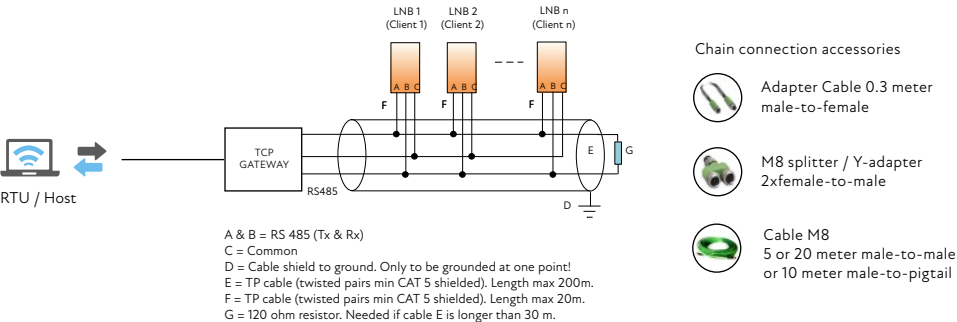
Direct connection

Schematic showing a direct connection using the M&C Startkit with USB transceiver.



Chain connection

Schematic showing a chain connection using a gateway to ethernet.



5. Troubleshooting

Ensure that the DC voltage of the power input aligns with the specifications provided in the product sheet. If there is a very long cable feeding the device with power, this may cause DC to drop below critical value, and cause the device to be unstable or not work at all.

If the DC voltage is confirmed to be correct, yet issues persist with the received signal, it is advisable to inspect any line amplifiers or other devices installed between the receiver and the device. Performing a bypass of the signal can help isolate whether any external equipment is contributing to the problem.

Furthermore, if the device is mounted on a large antenna, it may become saturated and fail to deliver the expected output level, or the outgoing signal could be distorted. It's crucial to consider the gain of the device, as larger antennas may require a device with a lower gain.

Make sure that if a LNA is installed before the BDC, that the output signal level from the LNA is not too high. If that is the case, attenuate the signal between the LNA and the BDC to avoid saturation in the BDC.

For troubleshooting the Alarm, Monitoring & Control functionality, please refer to our Q&A section on our website at www.smw.se, or reach out to us at support@smw.se for additional assistance.

6. Maintenance and Repair

The device does not contain any parts that can be serviced by the user. For any inquiries related to maintenance, warranty, or service, please request a Return Merchandise Authorization (RMA) at www.smw.se or by sending an email to support@smw.se.

When submitting your request, please include your name, email address, and company details. Also specify the product, part number, or serial number in question and attach a photo of the device. Provide a detailed explanation of the issue and any other information that could be helpful.



NOTICE!

Any device returned without an RMA number will be refused.

7. Technical specifications

Technical specifications are typical, specific part number specifications are available. Specifications are subject to change without prior notice.



Follow QR-code link to the website to download documentation, productsheets, technical drawings, complete manuals and appropriate register maps.
<https://smw.se/findproduct>



8. Warranty and Legal

General Terms & Conditions: ORGALIME S 2012 and Appendices.
Standard Warranty 36 Months. Read more at <https://smw.se/terms/>
Products from Swedish Microwave AB are made for commercial satcom use only.
Individual testreports is available on request. Country of Origin: SWEDEN

All products from Swedish Microwave are CE compliant with the following EU directives as applicable, depending on when placed on the market. Declaration of Conformity is available on request.

- Low Voltage Directive (LVD) 2014/35/EU
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- Radio Equipment Directive (RED) Directive 2014/53/EC
- Reduction of Hazardous Substances (RoHS 2) Directive 2011/65/EC
- Regulation (EC) No 1907/2006 (REACH Regulation)

Swedish Microwave is Assessed and Certified for:

- SS-EN ISO 9001:2015 Quality management
- SS-EN ISO 14001:2015 Environmental management
- SS-EN ISO 45001:2018 Occupational health and safety management



9. Contact details

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Contact the Sales Team: sales@smw.se.
Contact information is available on the company website at www.smw.se.

Feedback

Your opinion is important to us! Use the contact link at www.smw.se.





Welcome to contact the
Sales Team at sales@smw.se or
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