

dametric

GIR-DM1



GMS Industrial 4G Router

Description

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1 General

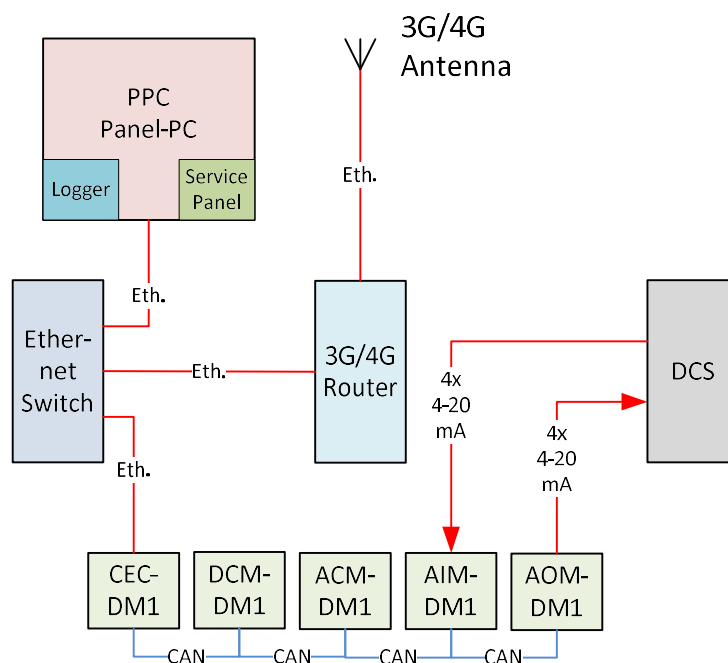
The GIR-DM1 is an industrial 4G router and the unit is used in RMS/GMS systems for remote access functions.

The one and only task for the remote access system is for Dametric to supply support and service to the AGS system end user. Files including logs, alarms and settings can easily be retrieved by Dametric during normal working times. Urgent 24/7 backup is also possible but this option has to be discussed and negotiated.

A SIM-card for the local 4G (or 3G) network is provided and paid by the end customer.

A couple of analogue signals is exchanged between the AGS system and the customer DCS. These signals are used for the logger functions.

The specific signals has to be determined for each installation.



2 Technical data

Mobile Communication

Networks 2G/GPRS/EDGE: 900/1.800 MHz; CSD, GPRS/EDGE class 12
3G/UMTS/HSPA: 900, 1.800, 2.100 MHz; UMTS, HSDPA, HSUPA
4G/LTE*: 800, 900, 1.800, 2.100, 2.600 MHz; LTE

Antenna 2 SMA connections, MIMO as an option (downlink)

SIM 1 slot for Mini-SIM card

Router

Function Connection management, DHCP server and client, full NAT (port forwarding, netmapping), DNS relay, dynDNS support, SNMP, NTP client and server, buffered real-time clock

Security OpenVPN (client and server), IPsec, PPTP, MAC firewall, 10 user for dial-in, authentication over PAP/CHAP/MS-CHAP/MS-CHAP 2, dial filter for dial-out, linkloss detection, failed login detection, GRE

Redundancy 2 dial-out targets, 2 OpenVPN server targets

LAN

Ports 2 x RJ45 (switch)

Operating mode 10/100 MBit/s for full/half duplex

Function Automatic recognition patch/crossover cable, automatic speed adjustment; MDI/MDI-X

Messages Hardware watchdog, system messages via e-mail, SMS and SNMP traps, SNMP V1/V2c/V3

Additional features Update firmware and configuration (local and remote), daily auto update

Electrical features

Power supply recommended +24 V DC ($\pm 20\%$), allowed 10...48 V DC

Power consumption approx. 2 W (logged in), max. 5 W (during connection)

Physical features

Size in mm Length = 110, width = 45, height = 70

Operating temperature -30...+ 60 °C>
-30...+ 75 °C under limited conditions (refer to under www.insys-icom.com/restricted)

Humidity 0...95% (non condensing).

Mounting DIN-rail on the back side

3 Display and control elements

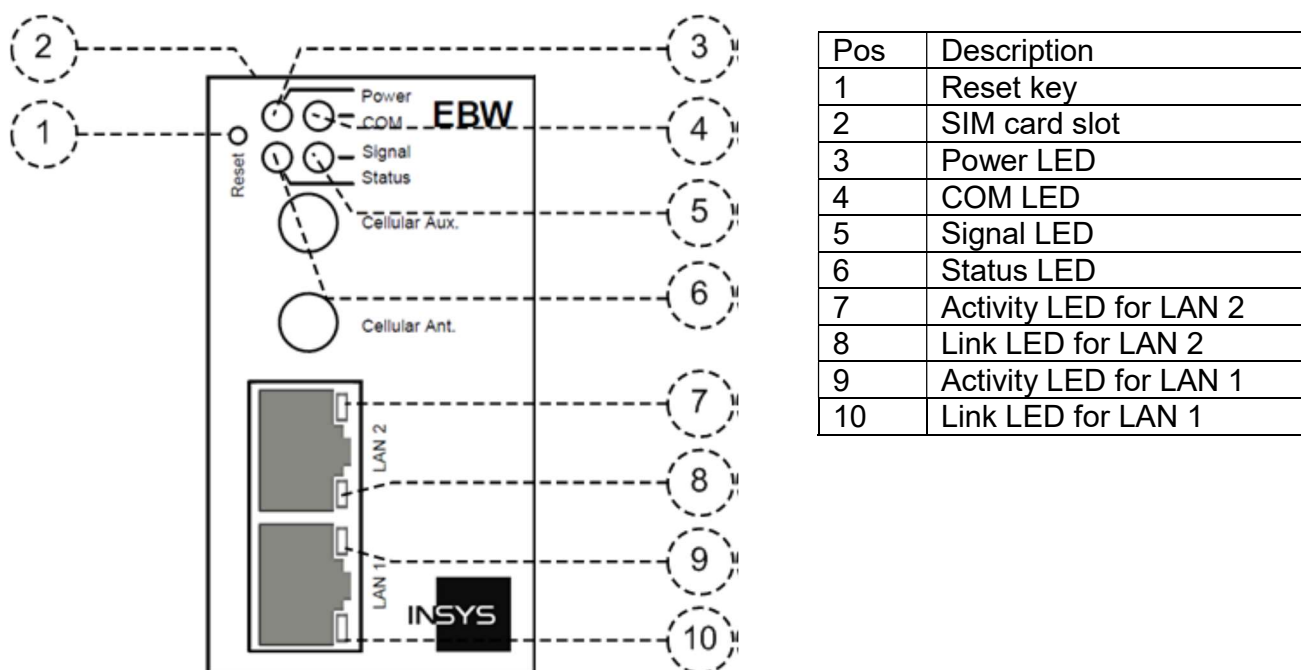


Figure 1: Display and control elements on the front of the device

3.1 Meaning of the display elements

LED	Colour	Function	off	flashing	blinking	on
Link LAN 1/2	green	10/100 MBit/s	10 MBit/s			100 MBit/s
Activity LAN 1/2	orange	Activity	not conn.		Data traf-fic	connected
Power	green	Supply	missing			present
COM	green	WWAN link	offline			establishing
	orange	WWAN link				established
Signal	green	SIM card	no signal or logged out	WWAN data traffic	Field strength (see Table 2)	
Status	green	VPN				VPN connec-tion estab-lished
	red	Status				Initialization, FW update, fault

Table 1: Meaning of display elements

Blinking interval LED signal	Quality	Signal quality
900 ms on, 100 ms off	20 .. 31	very good
200 ms on, 200 ms off	13 .. 19	good
100 ms on, 900 ms off	0 .. 12	poor
off	99 (not detectable)	insufficient

Table 2: Blinking code of the data/signal LED

3.2 Function of the control elements

Description	Operation	Meaning
Reset key	Press once for a short time.	Resets the software and restarts it. (Soft reset)
	Press at least 3 seconds.	Resets the hardware and restarts it. (Hard reset)
	Press three times for a short time within 2 seconds.	Deletes all settings and resets the device to the factory defaults.
SIM card slot	Press on SIM card for a short time	Ejects the SIM card.

Table 3: Description of the functions and meaning of the control elements.

4 Connections

4.1 Front panel connections

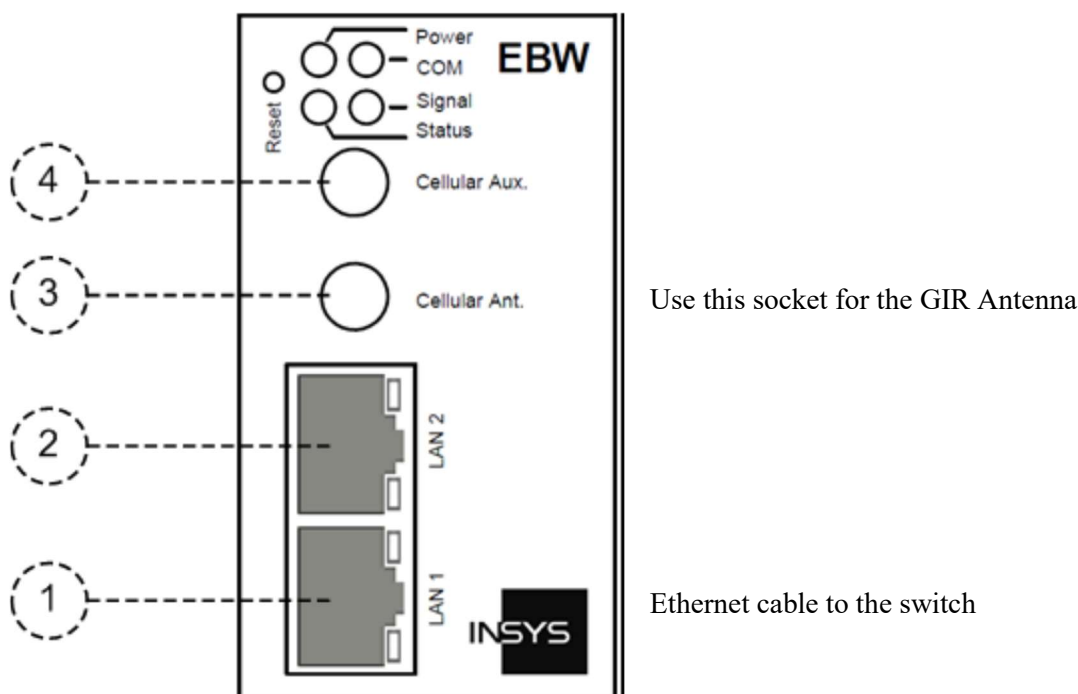


Figure 2: Connections on the front panel of the device

Position	Description
1	Ethernet port LAN 1 (RJ45, 10/100 BT) Connect this port to the GMS-SW1 unit.
2	Ethernet port LAN 2 (RJ45, 10/100 BT) This port is normally not used.
3	Cellular antenna connection (SMA socket), main antenna. Connect the GIR antenna to this socket.
4	Cellular antenna connection (SMA socket), additional antenna for 2x2 MIMO (downlink). Normally not used.

Table 7: Description of the connections on the front panel of the device

The screen of the antenna system must be connected to the protective conductor when using an outside mounted antenna.

4.2 Terminal connections on the top

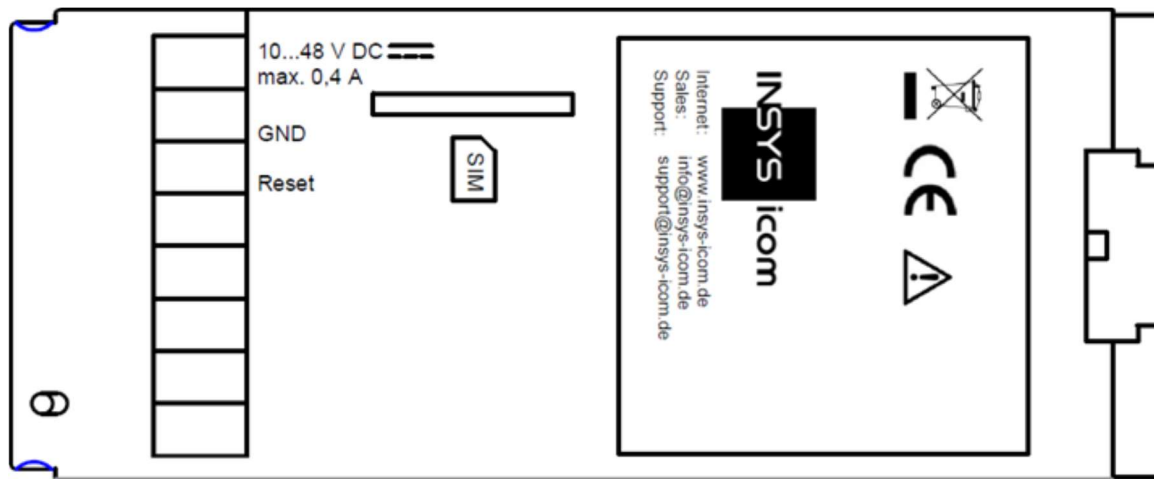


Figure 3: Connections on the top of the device

Terminal	Designation	Description
1	10 ... 48 VDC	Power supply 10 V – 48 V DC
2	GND	Ground
3	Reset	Reset input

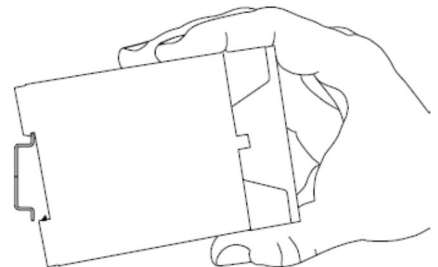
Table 8: Description of the connections on the top of the device

The reset input must be connected to ground (GND) to reset the device. The functionality is identical to the reset key

5 Mounting

Position the device at the DIN rail. There are two snap-in hooks at the upper and lower edge of the DIN rail groove. Hook the upper one into place behind the upper edge of the DIN rail.

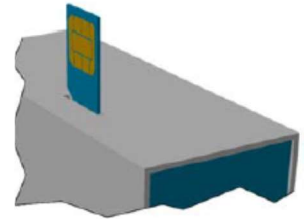
Lift the device perpendicular to the DIN rail until the two lower, flexible snap-in hooks engage in the DIN rail.



6 SIM Card

The system requires a Mini-SIM card and a 3G/4G internet connection agreement with a local operator. An unlimited data volume is preferable but if a limit is necessary, we suggest a minimum of 2GByte per month. This volume includes continuous logging.

The Mini-SIM card is mounted in the dedicated slot on top of the unit.



7 Configuration

7.1 LAN settings

The unit has to be configured for the chosen installation. This is done by Dametric at delivery and the IP-address is specified on the label on the left side of the unit. The standard IP-address used is 192.169.11.50 (mask = 255.255.252.0).

7.2 Internet router

The unit has to be configured for the used SIM card settings.

Pin	Enter the given pin from the Internet provider
User name	dametric
Password	service
Access Port Name	Enter name from provider.

PIN	
User name	user
Password	password
Access Point Name	?

8 Valmet article number

VAL0366871.

9 Connection

K1/1	+24VDC	Power supply (K1/1 is the leftmost terminal)
K1/2	0VDC	GND.
Lan 1	Ethernet	Connect to the switch.
Antenna		Connect to the lower antenna socket.
SIM	SIM card	Insert the SIM card into the slot.

Note. Turn off the power to the unit prior to insertion/removal.

10 Contact

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