OVARRO
CONNECTING TECHNOLOGIES

TBOX MS-GSM-4W
Version 3.04

TBOX
AN OVARRO TECHNOLOGY
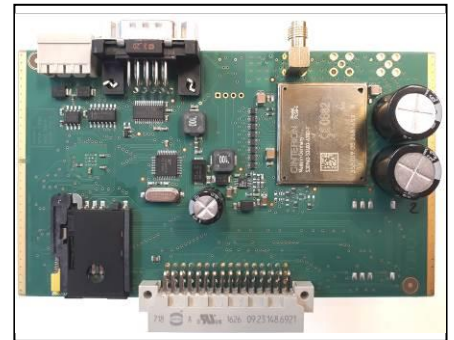
TBOX MS-GSM-4W

**Available for MS-CPU32 and MS-CPU32-S2,
not available for MS-CPU16**

- Worldwide LTE modem, except:
  - Chinese Operators using TDD technologies and Verizon in US
- Twelve Band LTE (4G)
- Seven Band UMTS/HSPDA (3G)
- Quad Band GSM/GPRS/EDGE (2G)
- GSM IP mode communication (through APN)
- Send/Receive SMS
- 1 port RS232/RS485 non isolated

Technical Specifications

General

Construction	Industrial grade LTE (4G) modem
Consumption	On the BUS : **30 mA** On Vp : **Max. 4.75 W**
Replacement	**Hot insertable/removable.** There is no risk to damage hardware, but a reset is required
Test	Automatic test of the access of the card by the CPU (See LED 'CS' below)

4G Modem

Frequencies	**LTE (4G): Twelve band,** 700 (Bd12 <MFBI Bd17>, Bd28) / 800 (Bd18, Bd19, Bd20) / 850 (Bd5) / 900 (Bd8) / AWS (Bd4) / 1800 (Bd3) / 1900 (Bd2) / 2100 (Bd1) / 2600 (Bd7) **UMTS/HSPA+ (3G): Seven band,** 800 (BdXIX) / 850 (BdV) / 900 (BdVIII) / AWS (BdIV) / 1800 (BdIX) / 1900 (BdII) / 2100MHz (BdI) **GSM/GPRS/EDGE (2G): Quad band,** 850/900/1800/1900 MHz.
Output Power	**According to Release 8 (4G):** Class 3 (+23dBm ±2dB) for all bands **According to Release 99 (3G):** Class 3 (+24dBm +1/-3dB) for all bands **According to Release 99 (2G):** Class 4 (+33dBm ±2dB) for EGSM850 Class 4 (+33dBm ±2dB) for EGSM900 Class 1 (+30dBm ±2dB) for GSM1800 Class 1 (+30dBm ±2dB) for GSM1900 Class E2 (+27dBm ± 3dB) for GSM 850 8-PSK Class E2 (+26dBm ± 3dB) for GSM 900 8-PSK Class E2 (+26dBm +3 /-4dB) for GSM 1800 8-PSK Class E2 (+26dBm +3 /-4dB) for GSM 1900 8-PSK

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Technical specifications may change before prior notice   Version. 3.04

LEDs (GSM)	Flashes when the GSM is connected to the network
Network	Indicates that the GSM is connected to an APN
On Line	Flash ON when GSM is transmitting
T/R	
SIM card	3V and 1.8V SIM cards
	Standard size SIM card.
Antenna connector	Screw connector, type SMA female (Jack) on MS-GSM card

RS232 – RS485

Mode	RS232 **or** RS485 (no simultaneous use of both modes)
Isolation	**No isolation**. Gnd is linked to earth by internal connection
RS232	Signals: RxD, TxD, CTS, RTS, DTR, DSR, DCD, RI
	Connector: 9 pin Sub-D (male)
RS485	Cabling: 2 wires (A+ and B-) for multi-points connection
	Termination: no need for termination resistor (failsafe bias resistors included: pullup and pulldown resistors which assures a logical level TRUE when A and B are opened or in short circuit)
	Number of slaves: 256 (if RS485 technology of slaves allows it too)
	Connector: screw connector (3 x 5.08 mm)
LEDs (common to 2 ports)	Indicates reception of data
RxD	Indicates transmission of data
TxD	

LED

| Cs | **Card Selection:** card corresponding to card declared in TWinSoft. |
| ER | **Error:** card type not corresponding to the one declared in TWinSoft. |

Environment

Temperature storage	-40°C to 85°C
Temperature working (ambient)	**Industrial Temperature:** -40°C to 70°C
Humidity	15 to 95 % without condensation
Altitude	Max. 5000 m

Dimensions

| Without connector | Height x Depth x Width: **150** x **83** x **29 mm** |
| Weight | 300 g |

Approvals

CE, UL, CSA, FCC, C-Tick

Antennas

One model of antenna covers all frequencies (**700/806/850/1800/1900/2100/2500/2600 Mhz**).
Reference. **ACC-GSM-ANT-4G**

8.76 cm

Antenna Surge Arrestor

Connection to the arrestor:

1. Use the N-M>>N-M connector from the arrestor to connect it to the antenna (remove N-M>>FME-M from antenna if mounted).
2. Connect N-M>>FME-M adapter supplied with the antenna to the arrestor.
3. Connect the corresponding wire.