



Name: Interface / Ex barrier

Type: INT-S3 | INT-S3/N

Installation manual

Document issue: 3.0 / 05-2023



Implicitly read the manual, where all necessary information, also information regarding safety, are included. This is only a supporting document, includes only selected information, useful during device installation. Installation manual is only an annex to the main document.

Manual along with information regarding safety and EU conformity declaration is available in Client Panel on website www.plummac.com under following link:

<https://gas.plummac.com/en/products/transmission-interface-int-s3/> and as above QR code.

SAFETY

INT-S3 and INT-S3/N are partially intrinsically safe, explosion proof devices and it can be installed only outside of hazardous explosion zone of gases and vapors. Ex marking II (2)G [Ex ib Gb] IIA. Devices are designed to cooperate with device installed inside explosion hazard areas and its installation must comply with requirements of applicable regulations.

Installation of intrinsically safe circuits must fulfill requirements of standard EN 60079-25:2010.

Grounding of the interface – terminal no. 3 connect to earth bar in telemetric cabinet using wire minimum 1,5mm² cross-section. In case of possibility of appearing more than 30V voltage in circuits, terminal no. 9 connect to earth grounding using wire minimum 4mm² cross-section.

Ex cables must be passed separately to the non-Ex cables. Wiring must meet the requirements of EN 60079-14 ch. 12.2.2.8: wires insulation should withstand 500V DC attempt voltage, and it can not be thinner than 0,1mm (for polyethylene insulation 0,2mm).

Wires and cables of Ex circuits should be rigidly placed and secured from mechanical factors.

LIYCY type cables for intrinsically safe circuits are highly recommended. Option for usage in intrinsically safe circuits – blue insulation.

Permissible cable lengths: RS485 Ex – 150m for LIYCY 6x0,5mm² or 100m for LIYCY 6x0,34mm²

Shielding of RS485 Ex cable connect to the SHIELD terminal, and the earth grounding. INT-S3 shielding has to be separated from housing of connected EVC or other devices, to prevent grounding loops appearing.

For longer than 30 meters connections it is recommended to ground the shield cable using surge protection device placed as close as possible to connected device, but not inside the explosive hazardous zone.

Do not install the interface in vicinity of strong electrical or magnetic fields.

TECHNICAL PARAMETERS

Ex marking	II (2)G [Ex ib Gb] IIA
Housing protection class	IP40
Input voltage	10,5÷30V DC
Output voltage	INT-S3: $U_{OUT} \sim 5,7V$ INT-S3/N $U_{OUT} \sim 7,6V$

Data transmission	Intrinsically safe circuits – RS485 Ex Standard circuits – RS485 Baud rate 9600 - 115200b/s or 1200 – 4800b/s
Signals separation	Z1, Z2 terminals – intrinsically safe circuits – marked with blue Z3, Z4 terminals – standard circuits – marked with black
Assembly	DIN rail (TS35)
Inputs / Outputs	Two separated digital inputs/outputs Outputs are OC type, maximum load – up to 200mA



Figure 1: View and dimensions of interface.

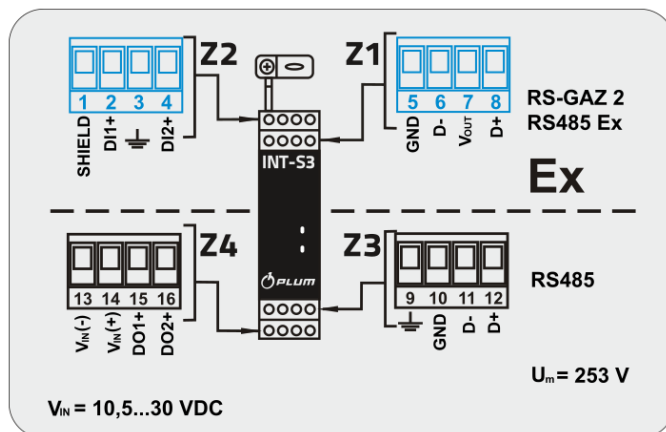


Figure 2: Terminals description of interface.

INT-S3 is dedicated to power supply ($V_{OUT}=5.7V$) device installed in Ex zone, and it can be also used as Ex barrier for RS485 communication channel and for Digital Outputs.

INT-S3/N is dedicated to power supply ($V_{OUT}=7.6V$) NAMUR circuits of device installed in Ex zone, and it can be also used as Ex barrier for RS485 communication channel and for Digital Outputs.

INT-S3/N can not be used as main power supply for devices like MacBAT 5 / MacREJ 5. For these devices it can be used only as Ex barrier for RS485 communication channel and for Digital Outputs.

CONNECTION DIAGRAM

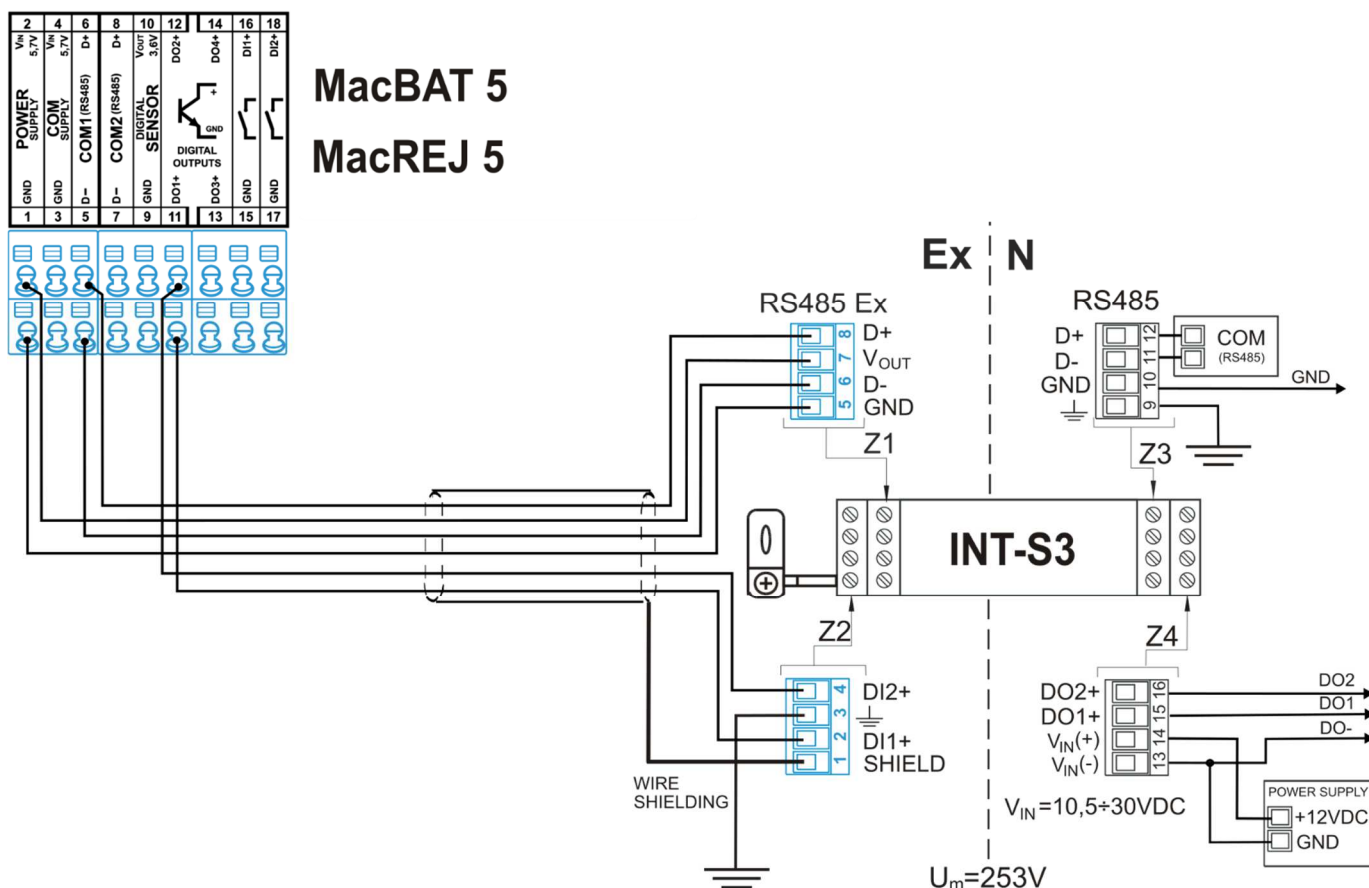


Figure 3: Connection diagram of INT-S3 with MacBAT 5 / MacREJ 5.

TECHNICAL SUPPORT

Technical Support Department
phone no.: +48 85 749 71 63
e-mail: support@plummac.com

Plum Sp. z o.o.
Ul. Wspólna 19, Ignatki
16-001 Kleosin
Poland

National Waste Database no.: 000009381