G201-ATEX

Ex I M1 (M1) Ex ib [ia Ma] I Ma
XEF 25 ATEX 0087 X



MAIN FIELDS OF APPLICATION

- Geotechnical engineering
- Hydrology
- Meteorology

Acquisition module for all types of analog instrumentation, designed for use in geotechnical monitoring in mining environments

G201 ATEX



G201-ATEX is an acquisition module for all types of analog sensors, designed for use in geotechnical, structural, and environmental monitoring in zones
I M1.

G201-ATEX reads various sensor categories with various signal types (mV/V, VW) in addition to vibrating wire instruments.

It can read thermistor sensors such as Pt100 and NTC.

G201-ATEX is available in four versions: 4, 8, 12, and 16 channels. Each channel has a four-pin terminal block that can be used to power the transducer and receive analog signals.

The function of the four-pin terminal block varies depending on the type of instrument connected to it. If the transducer has only two wires (as with vibrating wire and NTC sensors), each individual channel can be configured to read two instruments.

For example, a vibrating wire sensor and its temperature values can be read on the same channel. In fact, if the sensor types allow it, each channel can be considered double, and a 16-channel multiplexer can effectively be used to read 32 instruments. Thus, the G201-ATEX can become 4+4, 8+8, 12+12, and 16+16 channels.

INSTRUMENTS COMPATIBLE with multiplexer channels

- Vibrating wire strain gauge
- Electric strain gauge
- Tensometers
- Inclinometers and pendulums
- Piezometers
- Load cells
- Crackmeters
- Thermistors
- Hydrological instruments
- Meteorological instruments

TECHNICAL CHARACTERISTICS

• Standard power supply:	7-14V			
• Standby current:	60 µA;			
• Operating temperature:	-20 to +50°C;			
• Protection:	permanent depending on the cabinet type;			
• Number of channels:	4 + 4	8 + 8	12 + 12	16 + 16
• Dimensions:	48	72	97	122 x 101 x 119 mm
• Weight:	277	405	533	656 g
• Measurement types:	mV/V, VW, Pt100, NTC;			
• Measurement resolution:	24 bit (0.1 Hz for vibrating wire);			
• Supply voltage:	+ 5V constant current;			
• Communication type:	USB for local configuration and data download.			
• ATEX certification:	XEF 25 ATEX 0087 X protection system **Ex I M1 (M1) Ex ib [ia Ma] I Ma**			

ELECTRICAL SAFETY PARAMETERS

PARAMETER	MEANING	VALUE
Ui	Maximum permissible input voltage	14V
Ii	Maximum permissible input current	2.4A
Pi	Maximum permissible input power	10W
Ci	Internal capacitance	< 12.2uF
Li	Internal inductance	< 1uH
Uo	Output open circuit voltage IS	5V DC max
Io	Short circuit current IS	200 mA max (internally limited)
Po	Maximum power under fault conditions	≤ 0.5 W
Co	Maximum connectable capacitance	< 2 µF
Lo	Maximum connectable inductance	< 0.1 mH
L/R	ratio Internal L/R ratio	< 20 µH/Ω
Um	Maximum voltage at NON-IS terminals	≤ 30 V DC
Im	Maximum current at NON-IS terminals	≤ 500 mA

• Ambient temperature range: The ambient temperature range is -20°C and +50°C
• Intrinsically safe ports for connecting sensors (type [Ex ia Ma] I)
• One intrinsically safe power input (type Ex ia I Ma)
• One non-intrinsically safe USB port (marked “NON IS”) for configuration, firmware updates, or data export (for use in non-hazardous areas only)

SPECIAL CONDITIONS FOR USE

Due to its construction and delivery conditions, the equipment has special conditions for safe use that the user must observe to ensure compliance with the safety requirements for proper operation of the equipment in the area in which it is installed.

a| The USB port is not intrinsically safe and must be used exclusively in a safe (non-hazardous) area.

b| Configuration, data download, or firmware update operations must only be performed in a safe area.

c| The device must be installed according to the manufacturer’s instructions, with adequate mechanical protection to prevent impacts or stress that could damage the enclosure.

d| Avoid exposure to electrostatic charges. Clean only with a damp cloth.

e| The user must ensure that connected sensors or external circuits do not exceed the certified IS safety parameters.

f| The device must not be opened or repaired by the user. Any interventions must be performed by the manufacturer or an authorized service center, according to ATEX compliance procedures.

g| Power must come from a certified intrinsically safe circuit, with parameters compatible with the G201-ATEX input limits.

h| It is recommended to download these technical instructions to your devices (PCs, tablets, phones, etc.).

i| The maximum voltage and current at the NON-IS terminals must not exceed: Um = 30 V DC, Im = 500 mA.