

imc MTP-NT-ANALOG2 / ANALOG4



2- or 4-channel data acquisition module for various sensors

The functionality can be configured individually for each channel:

- Bridge sensors
- Strain gauges (STG)
- Voltage
- Current-fed sensors (IEPE/ICP)
- Potentiometers

Description of the imc MTP-NT measurement system

The **imc MTP-NT** measurement system is designed as a modular system kit that can be expanded flexibly. It consists of an **MTP-NT CONTROLLER module** for system control, as well as **MTP-NT measurement modules** for acquiring measurement data.

The individual modules are connected via suitable interfaces to form a fully functional overall system. The system architecture allows demand-oriented adaptation by adding further measurement modules. The power supply of the measurement system depends on the application and can, for example, be implemented using the MTP-NT POWER module. When powered via MTP-NT-POWER, the measurement system is suitable for continuous telemetry applications.

Overview of available variants

Order designation	Features	Part no.
MTP-NT-ANALOG2	Module (see photo) for acquiring STG, voltage, potentiometer, or IEPE channels (max. 2 channels)	13220002
MTP-NT-ANALOG4	Module for acquiring STG, voltage, potentiometer, or IEPE channels (max. 4 channels)	13220003
MTP-NT-ANALOG2-P	Version of the MTP-NT-ANALOG2 module in a plug-in housing (Plug-In)	13220302
MTP-NT-ANALOG4-P	Version of the MTP-NT-ANALOG4 module in a plug-in housing (Plug-In)	13220303

Available sets

Order designation	Features	Part no.
MTP-NT-ANALOG2-SET	1x MTP-NT-ANALOG2 module (13220002) with 1x NT bus cable (120 mm) and 1x signal connection cable (500 mm) with two 4-pin connectors on one side and open cable ends on the other side	13220141
MTP-NT-ANALOG4-SET	1x MTP-NT-ANALOG4 (13220003) with 1x NT bus cable (120 mm) and 2x signal connection cables (500 mm) with two 4-pin connectors on one side and open cable ends on the other side	13220161
MTP-NT-ANALOG2-SET-P	1x MTP-NT-ANALOG2-P (13220302) with 1x NT bus cable (120 mm) and 1x signal connection cable (500 mm) with two 4-pin connectors on one side and open cable ends on the other side	13220315
MTP-NT-ANALOG4-SET-P	1x MTP-NT-ANALOG4-P (13220303) with 1x NT bus cable (120 mm) and 2x signal connection cables (500 mm) with two 4-pin connectors on one side and open cable ends on the other side	13220316

MTP-NT-ANALOG2 / ANALOG4 - Technical Specs

General

Inputs, measurement modes			
Parameter	Value typ.	min. / max.	Remarks
Inputs		2 4	MTP-NT-ANALOG2(-P) MTP-NT-ANALOG4(-P)
Measurement modes		Bridge sensor Strain gauge (STG) Voltage Current-fed sensors (IEPE/ICP) (Integrated Electronics Piezo Electric) Potentiometer	full, half, and quarter bridge
Connections		Pin header	pitch 0.1 inch (2.54 mm)

Sampling rate			
Parameter	Value typ.	min. / max.	Remarks
Sampling rate		244.14 Hz to 62.5 kHz	
Bandwidth	95 Hz to 24 kHz		see table in the MTP-NT manual
Resolution	18 bit		A/D converter

Power supply			
Parameter	Value typ.	min. / max.	Remarks
Supply voltage		6 to 9 VDC	
Current consumption (depending on sensor type)	120 to 160 mA 240 to 320 mA		MTP-NT-ANALOG2(-P) MTP-NT-ANALOG4(-P)

Measurement modes

Bridge measurement / Strain gauge (STG)			
Parameter	Value typ.	min. / max.	Remarks
Mode		DC	
Measurement modes		Full, half, quarter bridge	
Measurement ranges		± 0.3125 mV/V to ± 40 mV/V	
Bridge excitation		4 V	fixed
Internal quarter-bridge completion		120 Ω , 350 Ω	
Gain deviation	<0.1%		
Zero offset deviation	<0.1%		
Shunt calibration	100 k Ω 300 k Ω	0.1% 0.1%	at 350 Ω at 120 Ω

Voltage measurement			
Parameter	Value typ.	min. / max.	Remarks
Measurement ranges (MR)	±312.5 mV to ±10 V		
Input coupling	DC		
Input impedance	667 kΩ		
Gain deviation	<0.1%		
Zero offset deviation	<0.1%		
Supply for external sensors	12 V / ≤30 mA		

IEPE/ICP			
Parameter	Value typ.	min. / max.	Remarks
Measurement ranges	±312.5 mV to ±10 V		
Lower cutoff frequency	3 Hz		
Sensor current supply	4 mA		

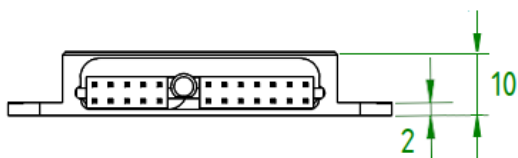
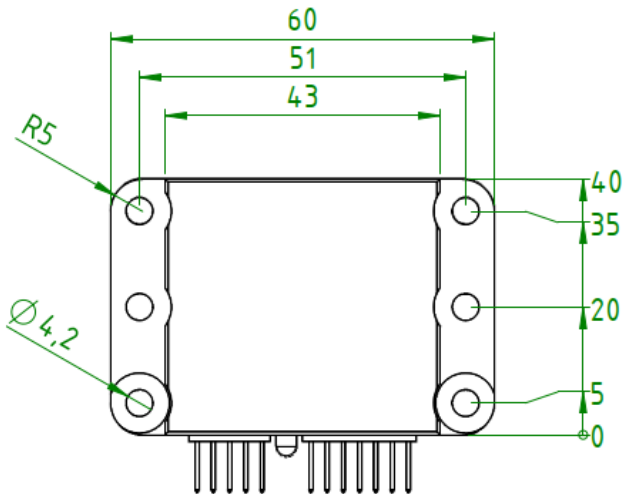
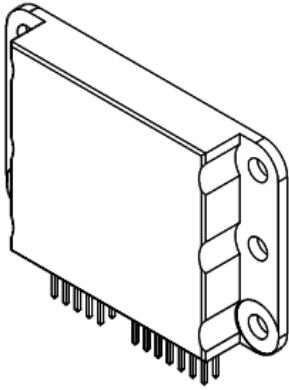
Potentiometer			
Parameter	Value typ.	min. / max.	Remarks
Potentiometer	≥120 Ω		
Fixed potentiometer supply	4 VDC		
Input impedance	667 kΩ		

Operating and environmental conditions

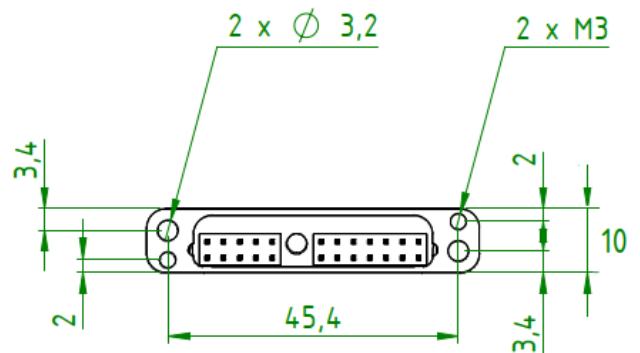
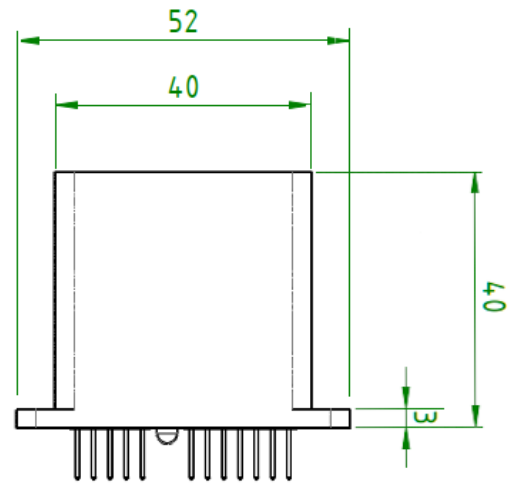
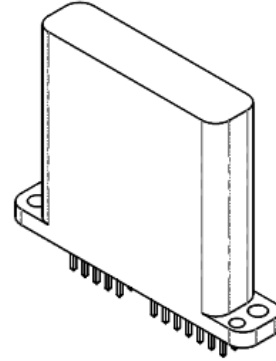
Operating conditions			
Parameter	Value typ.	min. / max.	Remarks
Operating temperature	-40°C to 85°C		
Pollution degree	2		
Dimensions (L x W x H)	60 x 40 x 10 mm 60 x 40 x 18 mm 52 x 40 x 10 mm 52 x 40 x 18 mm		MTP-NT-ANALOG2 MTP-NT-ANALOG4 MTP-NT-ANALOG2-P MTP-NT-ANALOG4-P see drawing ⁴
Weight	40 g ±3 g 65 g ±3 g		MTP-NT-ANALOG2(-P) MTP-NT-ANALOG4(-P)

Dimensions

MTP-NT-ANALOG2

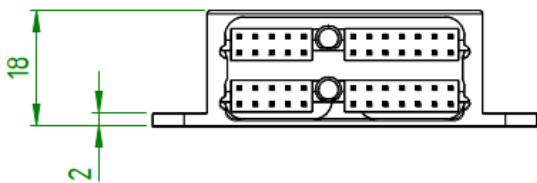
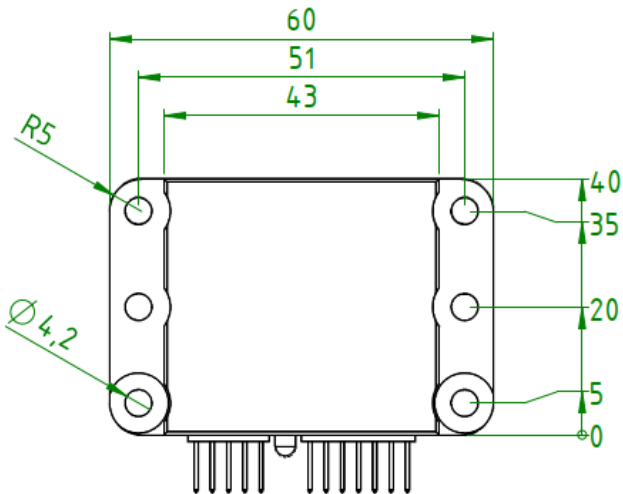
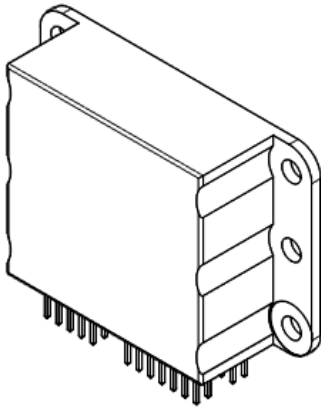


MTP-NT-ANALOG2-P

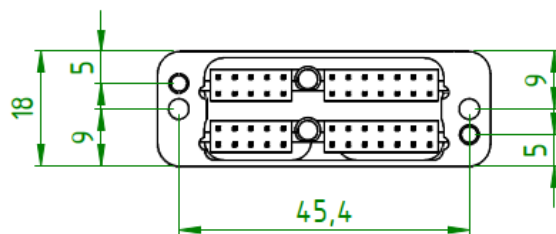
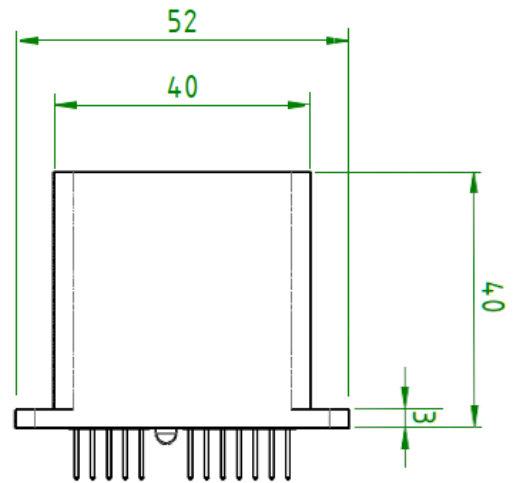
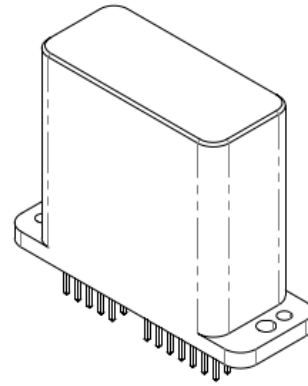


Dimensions

MTP-NT-ANALOG4



MTP-NT-ANALOG4-P



Accessories (optional)

Cable (spare part, accessory)

Order designation	Features	Part no.
CABLE-NT-BUS-S	NT bus cable for connecting the MTP-NT modules, length: 120 mm (S)	13220012
CABLE-NT-BUS-M	NT bus cable for connecting the MTP-NT modules, length: 170 mm (M)	13220013
CABLE-NT-BUS-L	NT bus cable for connecting the MTP-NT modules, length: 220 mm (L)	13220014
CABLE-NT-BUS-XXX	NT bus cable for connecting the MTP-NT modules, special length: ≤ 500 mm, <i>Please specify the desired length when ordering.</i>	13220015
Order designation	Features	Part no.
CABLE-NT-SENSOR-220	Signal connection cable with two 4-pin connectors on one side and open cable ends on the other side, length: 220 mm	13220016
CABLE-NT-SENSOR-XXX	Signal connection cable with two 4-pin connectors on one side and open cable ends on the other side, length: ≤ 500 mm <i>Please specify the desired length when ordering.</i>	13220101
CABLE-NT-VOLT-220	Signal connection cable with two 2-pin connectors on one side and open cable ends on the other side, length: 220 mm; for voltage sensor type	13220017
CABLE-NT-VOLT-XXX	Signal connection cable with two 2-pin connectors on one side and open cable ends on the other side, length: ≤ 500 mm; for voltage sensor type; <i>Please specify the desired length when ordering.</i>	13220102
CABLE-NT-IEPE-220	Signal connection cable with two 2-pin connectors on one side and open cable ends on the other side, length: 220 mm; for IEPE (ICP) sensor type	13220261
CABLE-NT-IEPE-XXX	Signal connection cable with two 2-pin connectors on one side and open cable ends on the other side, length: ≤ 500 mm; for IEPE (ICP) sensor type; <i>Please specify the desired length when ordering.</i>	13220262



An Axiometrix Solutions Brand

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Service and maintenance

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imc ACADEMY - Training center

The safe handling of measurement devices requires a good knowledge of the system. At our training center, experienced specialists are here to share their knowledge.

E-Mail: schulung@imc-tm.de

Internet: <https://www.imc-tm.com/service-training/imc-academy>

International partners

You will find the contact person responsible for you in our overview list of imc partners:

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