

DATA SHEET

# MGCplus

## Measuring amplifier system

### Supplement for AP816i

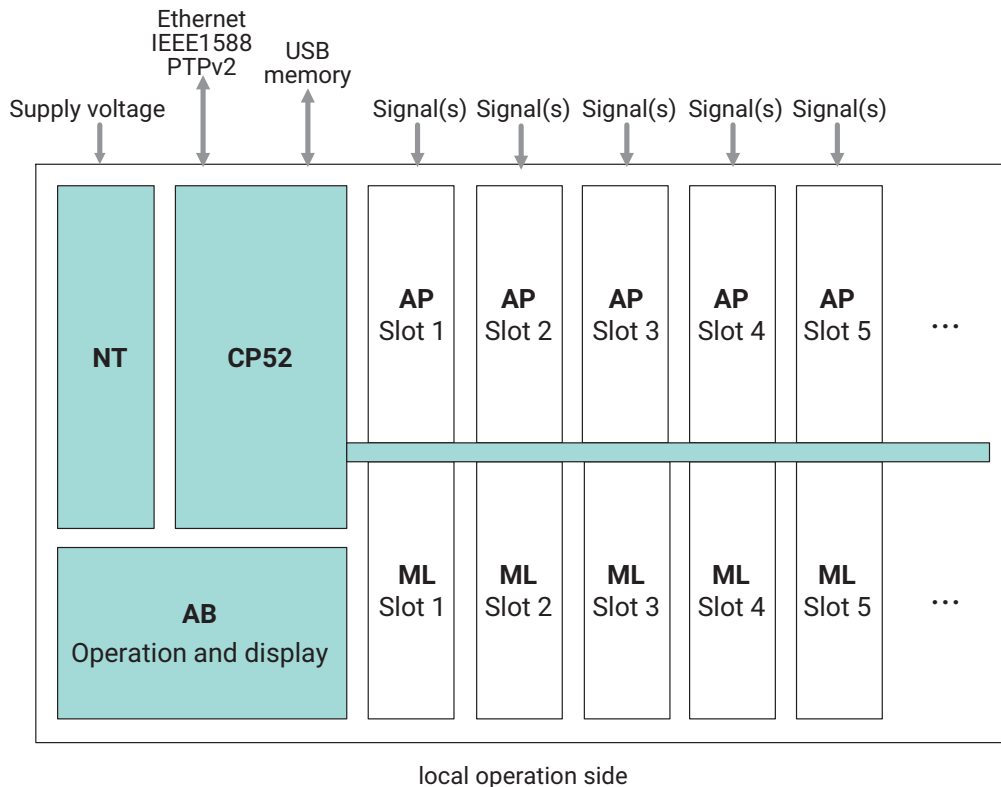
SPECIAL FEATURES

- Up to 128 channels per MGCplus enclosure (256 or 512 with CANHEAD or CAN)
- Sampling rates up to 19.2 kS/s per channel
- Simultaneous and parallel measurement with three independent sampling rates
- Stand-alone data logging with USB mass storage device
- Accuracy class to 0.0025
- Carrier frequency measuring amplifier for ambient conditions susceptible to error



**Please note: AP816i is only available on request.**

SCHEMATIC ILLUSTRATION

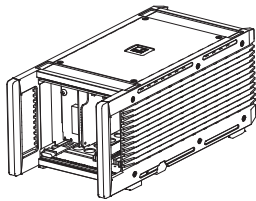


## MGCPLUS SYSTEM DEVICES

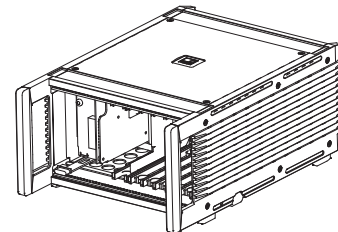
General technical specifications		
Nominal (rated) temperature range	°C	-20 ... +60
Storage temperature range	°C	-25 ... +70
Relative humidity	%	5 ... 85 (non-condensing)
Degree of protection		IP20
<b>Power supply unit</b>	<b>Type</b>	<b>NT040</b>
Rated input voltage	V AC	100 ... 240
Input voltage range	V AC	90 ... 264
Max. power consumption	W	170
Inrush current	A	< 16
Input frequency	Hz	40 ... 65

## MGCPLUS ENCLOSURE DIMENSIONS (IN MM)

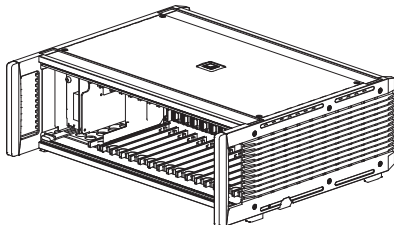
Desktop enclosure TG009E (177x161x386)



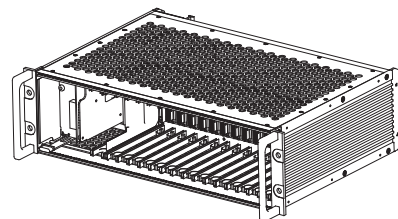
Desktop enclosure TG001E (258x161x386)



Desktop enclosure TG003E (462x161x386)



19" rack frame ER003E (482x133x365)



Desktop enclosure	19" rack	Slots	Supply voltage (V)	Weight, approx. (kg) TG/ER	Weight, approx. (kg) fully equipped
TG001E	-	6	230 (115)~	5.9 <sup>1)</sup>	8.3
TG003E	ER003E	16	230 (115)~	8.3 / 5.5 <sup>1)</sup>	14.6 / 11.8
TG009E	-	2	230 (115)~	5.0 <sup>1)</sup>	5.8

<sup>1)</sup> With the NT030 power pack, the enclosures weigh about 150 g less each

### Notes

The MGCplus system is tested in accordance with the harmonized European standards 61326-1:2013 and 61010-1:2010. It therefore conforms to the applicable directives 2014/30/EU (Electromagnetic compatibility, EMC) and 2014/35/EU (Low-voltage electrical equipment) in relation to protection against hazards. Mechanical stress is tested in accordance with European standards EN 60068-2-6 for vibration and EN 60068-2-27 for shock. The devices are exposed to an acceleration of 25 m/s<sup>2</sup> within the frequency range 5 ... 65 Hz in all 3 axes. Duration of this vibration test: 30 minutes per axis. The shock test is implemented at a nominal acceleration of 200 m/s<sup>2</sup> for a duration of 11 ms, half sine and with shocks in each of the six possible directions. The maximum load per MGCplus slot is 150 mA with 16 slots. Double slot loading is possible if an adjoining slot is left vacant.

Multi-channel measurement card ML801B with connection board AP816i					
Accuracy class		0.1 <sup>2), 3), 4)</sup>			
Non-linearity	%	0.05			
Bridge excitation voltage ( $\pm 5\%$ )	V	5	2.5	1	0.5
Transducer		8 SG quarter bridges in 3-wire configuration 8 SG half bridges in 5-/6-wire configuration 8 SG full bridges in 6-wire configuration			
Allowed cable length between transducer and connection board	m	200 <sup>5)</sup>			
Internal completion resistors	$\Omega$	120, 350, 700, 1000 <sup>6)</sup>			
Transducer impedance					
SG half and full bridge	$\Omega$	330 ... 4000	160 ... 4000	120 ... 4000	120 ... 4000
Measuring ranges	mV/V	$\pm 8$	$\pm 16$	$\pm 40$	$\pm 80$
Measurement frequency range	Hz	1000 (-1 dB)			
Control signal (shunt)	mV/V	1.0078 $\pm 0.1\%$ (at 350 $\Omega$ )			
Noise for 350 $\Omega$ full bridge with selected low-pass filter	$\mu\text{V}/\text{V}_{\text{SS}}$				
500 Hz (Butterworth)		< 4	< 8	< 20	40
80 Hz (Butterworth)		< 0.6	< 1.2	< 3	< 6
5 Hz (Butterworth)		< 0.1	< 0.2	< 0.5	< 1
200 Hz (Bessel)		< 4	< 8	< 20	40
40 Hz (Bessel)		< 0.6	< 1.2	< 3	< 6
1.25 Hz (Bessel)		< 0.1	< 0.2	< 0.5	< 1
Effect of 10 K change in ambient temperature					
Sensitivity	%	0.1			
Zero point	%	0.1 <sup>3)</sup>			
Transducer connection		D-sub, 25-pin, DB-25P <sup>7)</sup>			
Width	mm	20.3 (4 HP)			

2) 0.2 with irradiation as per EN 61000-4-3:1996 + A1:1998

3) 0.2 with 5 V bridge excitation voltage

4) If zero balancing is not possible, the following accuracy classes apply: 0.2 with  $R_{\text{transducer}} > 2 \text{ k}\Omega$  and 0.3 with  $R_{\text{transducer}} > 3 \text{ k}\Omega$ .

5) 100 m max. distance between connection board and T-ID/TEDS module

6) Option

7) HBK ordering number 2-9278.0293

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