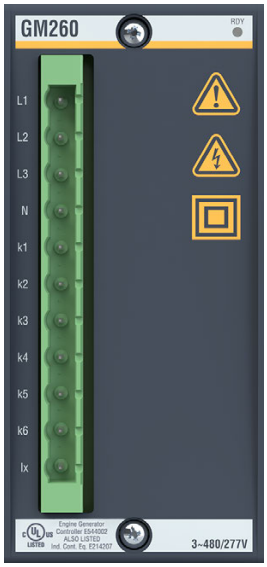


Part type designation	Part number
GM260	00022162-00
GM260 CC	00026118-00

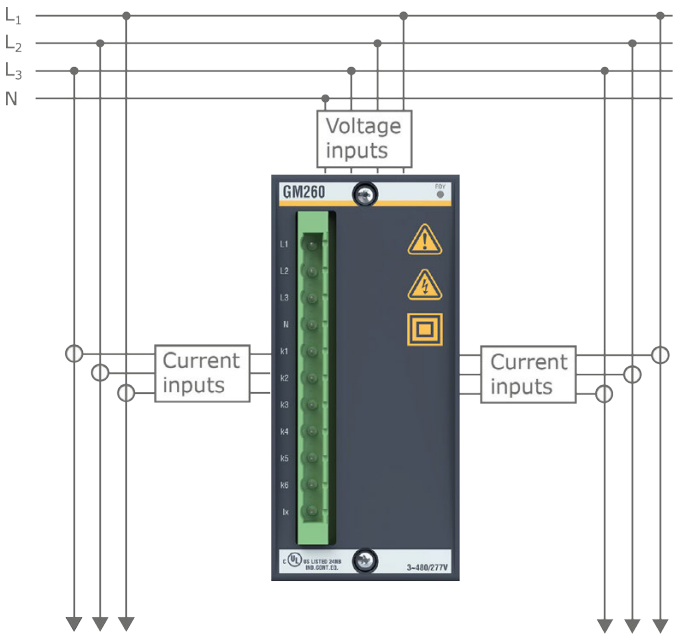
GM260
Grid Measurement Module

The GM260 module enables the safe, reliable and fast measurement of all relevant values for three-phase electrical networks. 2 separate 3-phase branches can be acquired at a common voltage monitoring point. The grid variables are calculated online in the module as True RMS values including harmonics up to the 40th harmonic. This is particularly useful for applications such as for operational measurement on machines or the energy monitoring in plants and buildings. As well as functions for determining the active, apparent and reactive power for each phase, 2 separate 4-quadrant energy counters are directly integrated in the module.

The GM260 module is fully integrated in the Bachmann SolutionCenter. Both the measured channel values and also the derived values are made available directly in the user interface.

Features

- Measurement of current, voltage, frequency, power, power factor, phase angle
- Input voltages up to 480 $V_{L\text{-}L,\ RMS}$ can be directly connected
- True RMS calculation online
- 2 independent 4Q energy meters
- Compact design for 2 three-phase branches



Application example: Power measurement with common voltage input

GM260 – Grid measurement

Current/voltage measurement	
Measuring method	True RMS (incl. harmonics up to 40th)
Measurement interval	50 Hz: 10 ms 60 Hz: 8.33 ms
Voltage measurement	
Number	3
Maximum rated voltage	$U_{L-L, RMS}$: 480 V_{RMS} $U_{L-N, RMS}$: 277 V_{RMS}
Voltage measuring range	$U_{L-L, RMS}$: 70 V_{RMS} to 625 V_{RMS} $U_{L-N, RMS}$: 36 V_{RMS} to 361 V_{RMS}
Accuracy [1)]	≤ ±0.1 %
Continuous overload	$U_{L-L, RMS}$: 680 V_{RMS} $U_{L-N, RMS}$: 390 V_{RMS}
Short-term overload (10 x 1 s, interval 10 s)	$U_{L-L, RMS}$: 1039 V_{RMS} $U_{L-N, RMS}$: 600 V_{RMS}
Input impedance	> 2 MΩ

[1)] *Accuracy rating as a percentage of the nominal value at 25 °C and reference conditions*

Current measurement	
Number	6
Accuracy [1)]	≤ ±0.3 %
Current transformer rated current	1 A_{RMS}
Current measuring range	0.01 A_{RMS} to 1.2 A_{RMS}
Current acquisition range	0 A_{RMS} to 1.2 A_{RMS}
Continuous overload	1.2 A_{RMS}
Short-term overload (5 x 1 s, interval 300 s)	20 A_{RMS}
Burden	75 mVA

[1)] *Accuracy rating as a percentage of the nominal value at 25 °C and reference conditions*

Frequency measurement	
Rated frequency	50/60 Hz
Reference range	45 Hz to 65 Hz
Accuracy [1)]	≤ ±0.01 Hz (with average filtering down to ≤ ±0.005 Hz)
Measurement interval	Updated at each positive zero crossing 50 Hz: 20 ms 60 Hz: 16.67 ms

[1)] *Accuracy rating as a percentage of the nominal value at 25 °C and reference conditions*

Power measurement – active, reactive and apparent power	
Measured values	P, Q, S per phase and as total value
Accuracy [1)]	≤ ±0.4 %
Calculation methods	DIN 40110-2
Measurement interval	Updated at each positive zero crossing 50 Hz: 20 ms 60 Hz: 16.67 ms

[1)] *Accuracy rating as a percentage of the nominal value at 25 °C and reference conditions*

GM260 – Grid measurement

Energy metering	
Number	2
Accuracy [1)]	≤ ±0.4 %
Resolution	1 Wh
Active energy	Supplied (positive), drawn (negative)
Reactive energy	Supplied (positive), drawn (negative)
Measurement interval	Updated at each positive zero crossing 50 Hz: 20 ms 60 Hz: 16.67 ms
Type of memory	Nonvolatile (on the module)
Memory cycle	1 s

[1)] *Accuracy rating as a percentage of the nominal value at 25 °C and reference conditions*

GM260 – module properties

Electrical safety		
Product standard		IEC/EN 61131-2
Generic standard		IEC/EN 60664-1
Pollution degree (IEC 60664-1)		2
Overvoltage category		III
Surge voltage		4 kV
Protection class		2
Approvals/Certificates		
General		CE, UKCA, cULus
Maritime & Offshore		ABS, BV, DNV, LR, KR, NK, RINA
Environmental conditions		
Operating temperature		-30 °C to +60 °C
Relative humidity	Operation	5 % to 95 % noncondensing
	Storage	5 % to 95 % with temporary condensation
Storage temperature		-40 °C to +85 °C
Maximum altitude		2000 m above Operation up to 4500 m on request
Power supply		
Via backplane		+5 V | ≤ 130 mA, +15 V | ≤ 45 mA
System requirements		
Hardware		All M200 CPU families apart from ME203, SK1 backplane not required
Software		Recommended: M-Base 3.91/SolutionCenter 1.91 or higher (recommended) (If the release driver is installed manually, also executable from the system software of the CPU ≥ M-Base 3.90)

Order data

Part type designation	Part number	Description
GM260	00022162-00	Grid measurement module; 3x In 480 V, 6x In 1 A; U-, I-, P-, Q-, f-measurement; 4Q-energy metering
GM260 CC	00026118-00	GM260; ColdClimate (❄)

Accessories

Part type designation	Part number	Description
SS-GM260 B	00023512-00	Terminal set Phoenix screw lateral (1x SS 76/11) with labeling strips