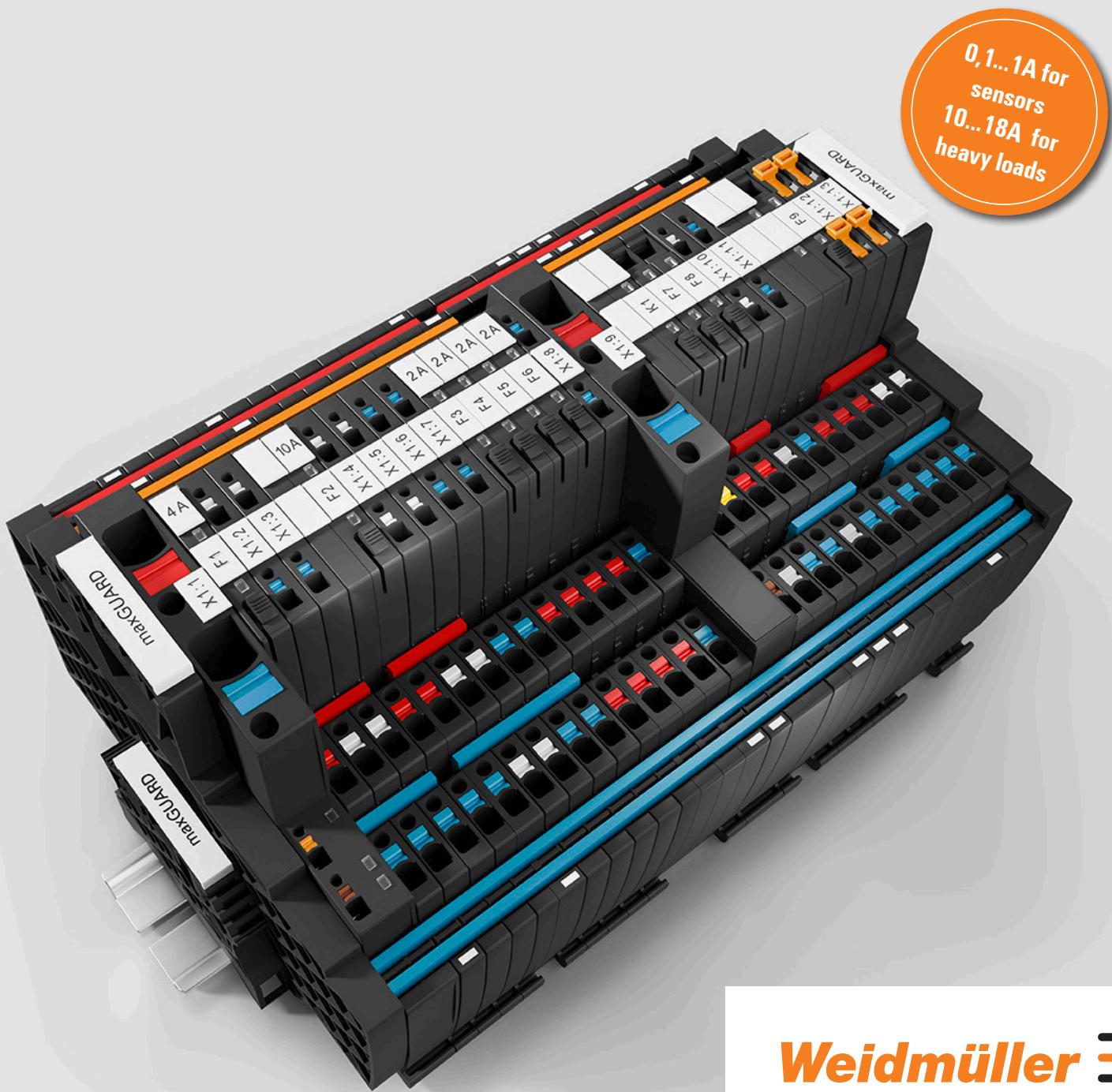


Power supply

Load monitoring with integrated potential distribution

maxGUARD – the innovative control voltage distribution system



Load monitoring and potential distribution in one complete solution

maxGUARD – taking control voltage distribution to a new level

Fail-safe and maintenance-friendly control voltage distributions that can be installed in a time- and space-saving manner are a must for efficient machine and facility operation. With the new maxGUARD system, the terminal blocks (previously installed separately) for distributing potential to the outputs of the electronic load monitors become an integral part of a 24 V DC control voltage distribution solution. The new combination of load monitoring and potential distribution saves time during installation, increases safety against failure and reduces the amount of space required on the terminal rail by 50 %.



CE
IECEx

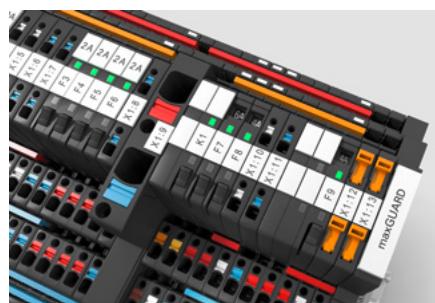


UL
LISTED



Extreme ease of servicing

Sophisticated operating, testing and connection elements permit safe access to all voltage potentials and load circuits during commissioning and maintenance.



Particularly space-saving

Electronic load monitors and potential distributors with a 6.1 mm pitch.



Space saving
of up to
50 %

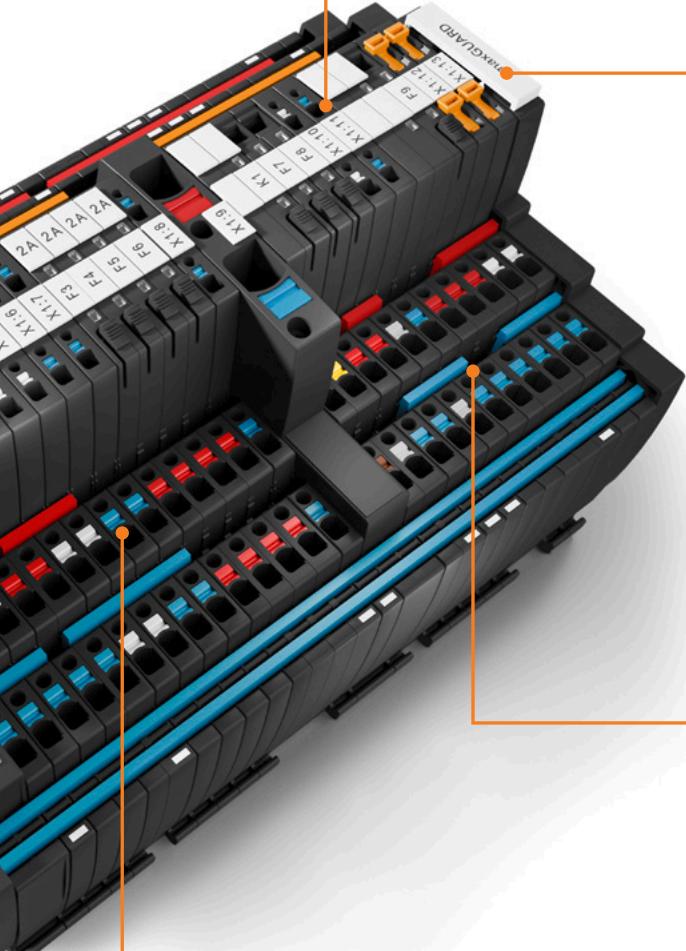
Integrated test point

Consistently integrated test points in the maxGUARD control voltage distribution's input and output speed up troubleshooting operations.



Practical disconnecting lever

Potential distributor with a disconnecting lever for simple galvanic isolation of the load circuit for testing and checking purposes.



Unique cross-connectors

Less time and effort needed for wiring due to cross-connections between load monitoring and potential distribution terminals.



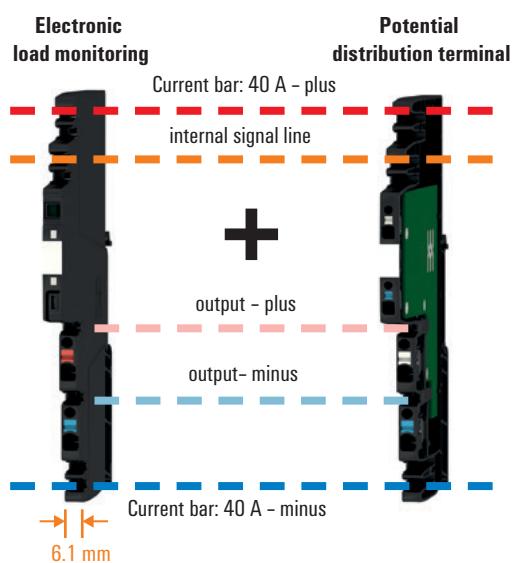
Can be used in a customised way

The sheer range of variants and the very different potential distribution terminals and additional components enable customised solutions at all times.

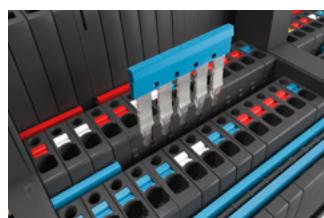
maxGUARD – the concept

Time- and space-saving control voltage distribution

Combination of load monitoring and potential distribution



- Three main connection channels: positive, negative and internal signals
- Simple to increase the number of contacts thanks to crossconnection option in the potential distribution terminals



Sophisticated arrangement of connections and markers ensures clarity



Markers for current strength

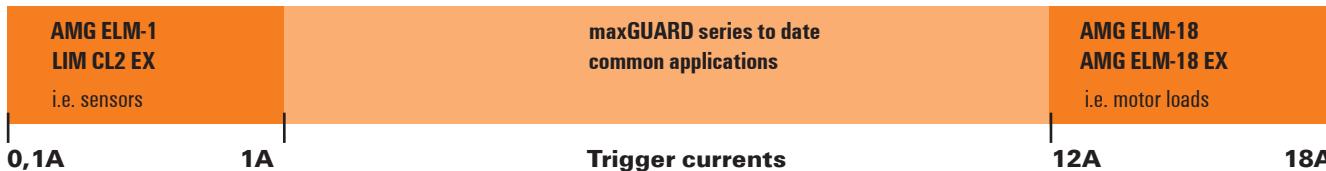
Continuous marker channel for equipment ID

Supply terminal (positive): 16 mm²

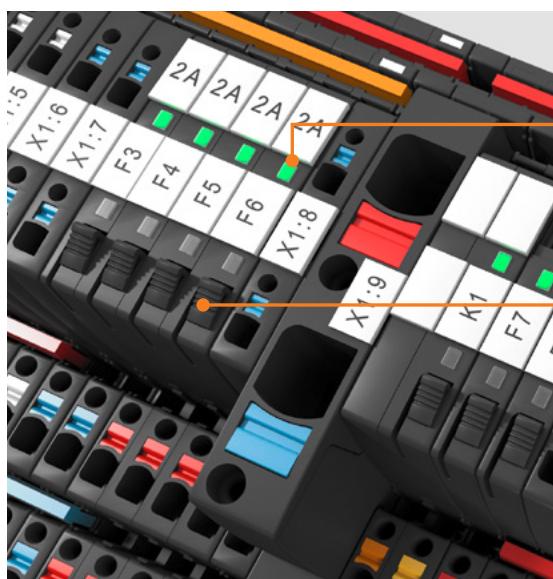
Supply terminal (negative): 16 mm²

Reset input and alarm output for connecting to the PLC

New: maxGUARD with extended current range



Signaling LEDs enable immediate status indication and monitoring

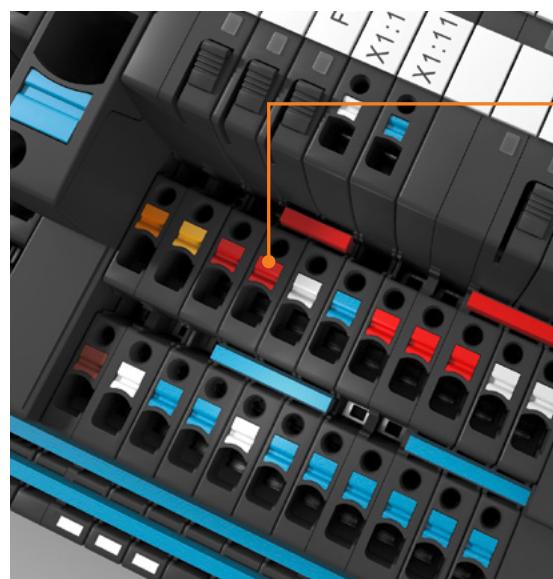


Green/red LED status indicator

LED Status	Meaning
LED green	Load monitoring is switched on
LED green flashing	Overcurrent advance warning ($I>90\%$)
LED red	Load monitoring is switched off
LED red flashing	Load monitoring has been initiated
LED red fast flashing	Internal error

Load monitoring status	Pressing the button
LED green, in operation	>0.1 to 2 s (manual switch-off)
LED red flashing, Load monitoring has been initiated (switched off)	>0.1 to 2 s (confirm and reset)
LED red (permanently lit)	>0.1 to 2 s (restart)

Multicoloured pushers simplify the identification of active and passive components when connecting cross bridges



Pushers

Red pushers indicate the active output terminals of the electronic load monitoring elements. Blue or white pushers indicate the output terminals of the potential distributors.

High level of modularity for optimal adaptability

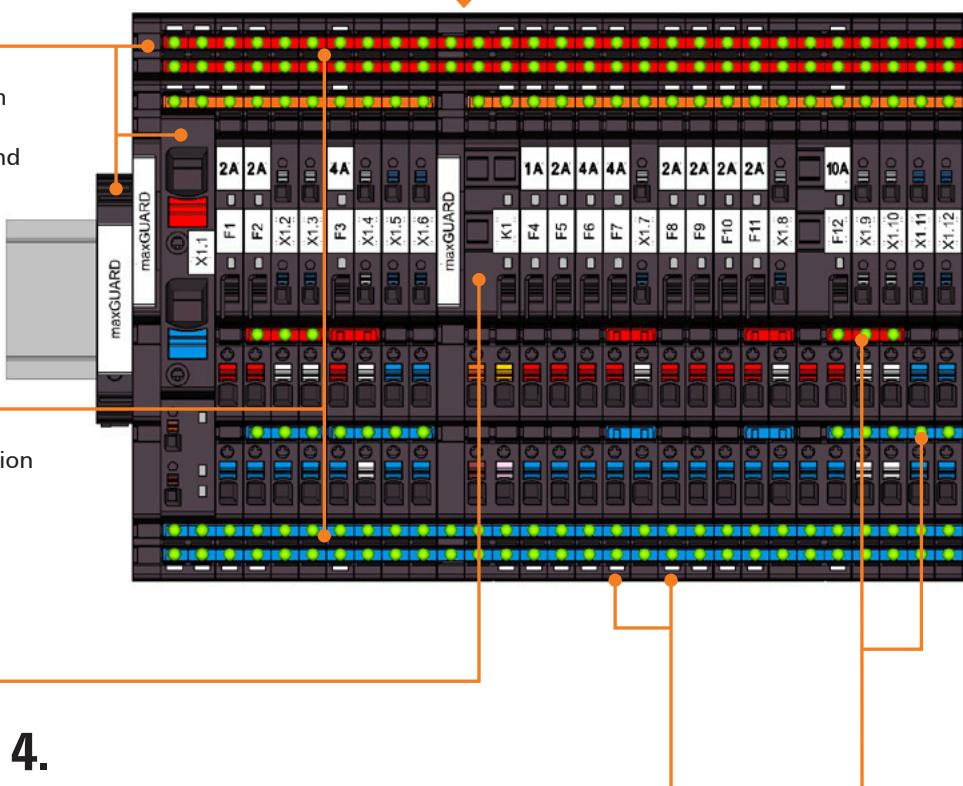
Customised solutions made simple with maxGUARD

maxGUARD is breaking new ground in control voltage distribution. The combination of load monitoring elements and potential distribution terminals saves up to 50 % space and up to 20% time with wiring work, while the flexible compatibility of numerous single-channel and four-channel variations optimises material costs. maxGUARD offers you the benefits of a modular, highly flexible system that can be optimally adapted to any application.

Segment (see point 3)

1.

A maxGUARD station should always begin with an end bracket WEW 35/2, an end plate AMG EP and a supply terminal, and should always end with an end plate and an end bracket.



2.

For system currents >20 A, the main connection channels must be configured in duplicate.

3.

The use of control modules allows for the segmentation of a maxGUARD station.

4.

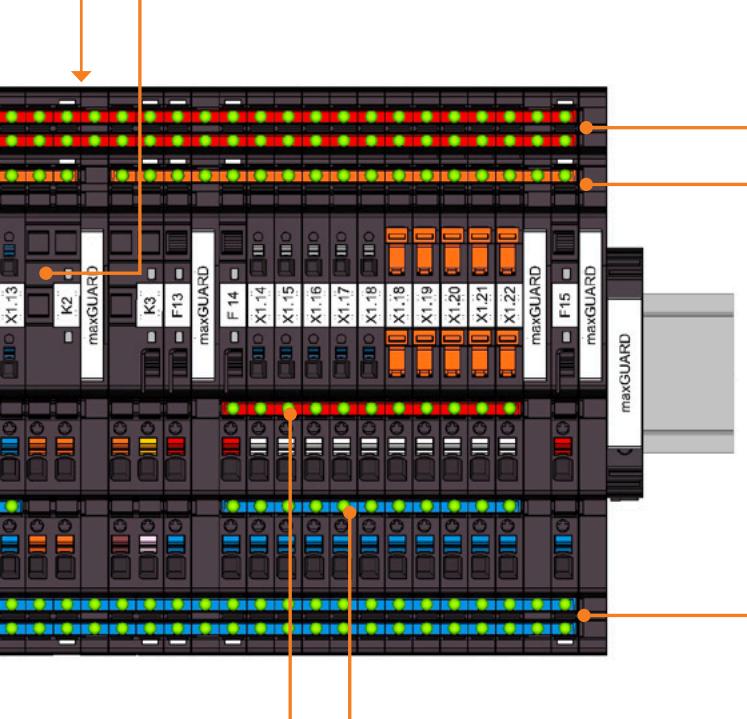
The markings on the plastic tabs denote the active inserted cross-connection sockets, whereby the upper and lower contact for each are electrically connected to one other. These sockets can be used to extend the cross bridges for currents of up to 20 A (see point 7).

The maxGUARD wizard enables the simple and fast configuration of the optimal station for your application. We are happy to provide you with data for further planning.

www.weidmueller.com/configurator

8.

An alarm module can be connected as desired and offers potential-free decoupling of the "Alarm" and "I>90 %" signals.



7.

The main channels for positive and negative and the internal signal line are designed as double-shaft channels. This allows smaller systems with currents of up to 20 A to be easily expanded at any time. There are different ways to achieve system currents >20 A:
a) By using longer cross-connection bridges
b) By installing a passive supply terminal directly behind the last cross-connection PIN and shifting the main cross bridges over to the next PIN on the right, so that the first and last supply terminals are connected to the cross-connector.

5.

The cross-bridging of load monitoring outputs in the potential distribution terminals must always be performed with insulated prefabricated bridges. This prevents the risk of short circuits occurring if there are cross bridges directly adjacent from an adjoining load monitoring circuit. Insulated prefabricated bridges are available with 2 to 10 poles.

6.

Non-insulated cross-connectors must be used for cross bridges with >10 poles in the load monitoring outputs, multi-pole. In order to avoid short circuits with adjacent cross-connectors, a separation plate must be installed.

maxGUARD – product overview

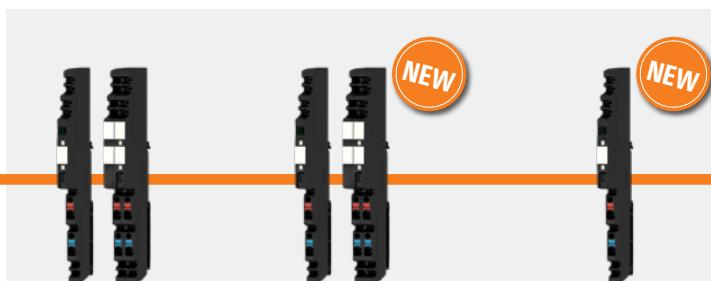
Flexible and modular design

Supply terminals, control and alarm modules



Supply terminal	Supply terminal	Control module	Alarm module
16 mm ²	16 mm ²	Alarm	Potential-free
Passive	With alarm and reset function	Reset I>90 % ON/OFF	contacts for alarm >90 %

Electronic load monitoring



Fixed-value modules	Adjustable module	Adjustable module
1 / 2 / 4 / 6 A	1 - 2 - 3 - 4 - 6 A	0,1...1A
6.1 mm housing	6,1 mm housing	6,1 mm housing
8 A / 10 A	4 - 6 - 8 - 10 - 12 A	with current limiting function
12.2 mm housing	12,2 mm housing	
	10 - 12 - 14 - 16 - 18 A	
	12,2 mm housing	

Power-feed, control and alarm module

- Alarm module with potential-free contacts for the "Alarm" and "I>90%" signals.
- Control module with extended control function.
- Passive or active power-feed module with reset and alarm function

Load monitoring (fixed value)

Electronic load monitoring with fixed current (without $I > 90\%$ function)

Load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic (with $|I| > 90\%$ function)

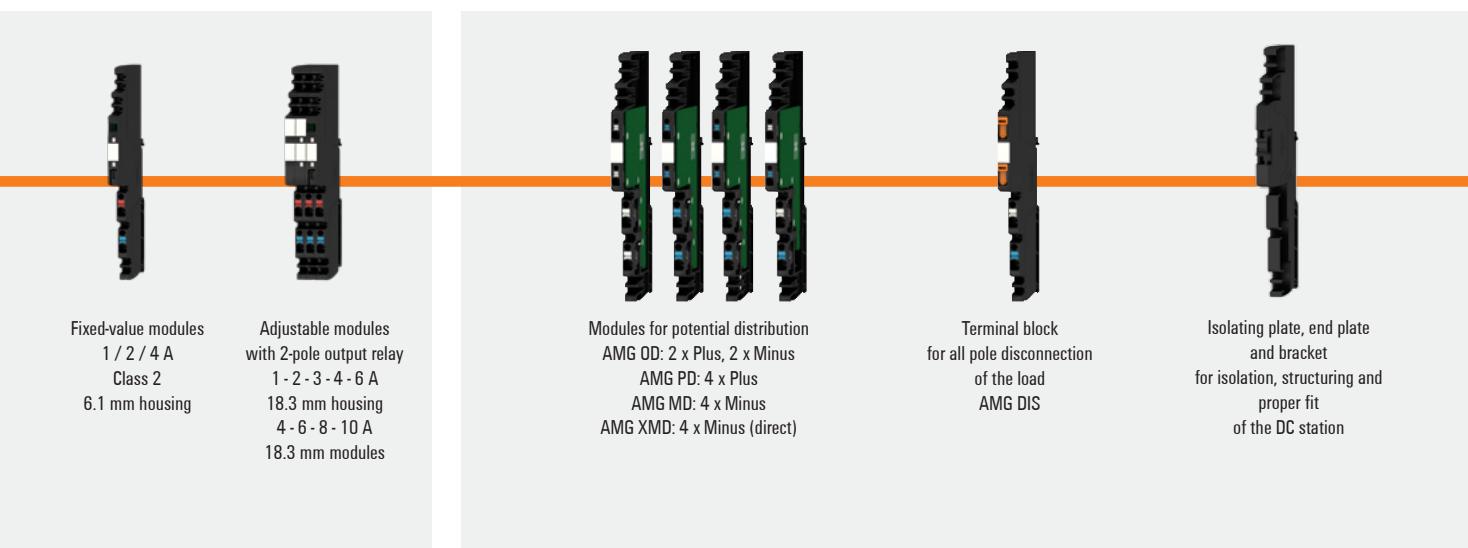
Load monitoring adjustable

Load monitoring device with adjustable tripping current und current limiting function (with $I > 80\%$ function)

Type	Order No.
AMG FIM-O	2081870000
AMG FIM-C	2081880000
AMG FIM-O EX	2082530000
AMG FIM-C EX	2082540000
AMG CM	2081900000
AMG CM EX	2083360000
AMG AM	2081890000
AMG AM CO	2082770000

Type	Order No.
AMG ELM-1F	2080420000
AMG ELM-1F EX	2082040000
AMG ELM-2F	2080480000
AMG ELM-2F EX	2082050000
AMG ELM-4F	2080490000
AMG ELM-4F EX	2082060000
AMG ELM-6F	2080500000
AMG ELM-6F EX	2082310000
AMG ELM-8F	2080600000
AMG ELM-8F EX	2082320000
AMG ELM-10F	2080650000
AMG ELM-10F EX	2082430000

Potential distribution and accessories



Load monitoring (fixed value) Class 2

Electronic load monitoring with fixed rated current
(without $|I| > 90\%$ pre warning)
Class 2 Approval

Load monitoring with relay

Electronic load monitoring with 2-pole output relay for allpole load disconnection; triggering current and triggering characteristic adjustable (with $I > 90\%$ function)

Potential distributor

Flexible application through various potential distributor.

End plate and Separation plate

End plate for mechanical stabilization.
Separation plate for logical subdivision.

Type	Order No.
AMG MD	2122930000
AMG MD EX	2495040000
AMG OD	2122910000
AMG OD EX	2495090000
AMG PD	2122920000
AMG PD EX	2495070000
AMG XMD	2122940000
AMG XMD EX	2495080000
AMG DIS	2123050000
AMG DIS EX	2495100000

Load monitoring adjustment

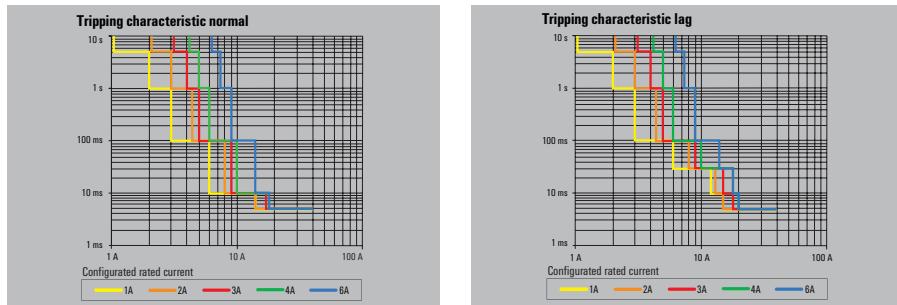
maxGUARD – accessories and order information

Technical data for your planning activities

Selection of characteristic curves using the example of a 6-A adjustable load monitoring system:

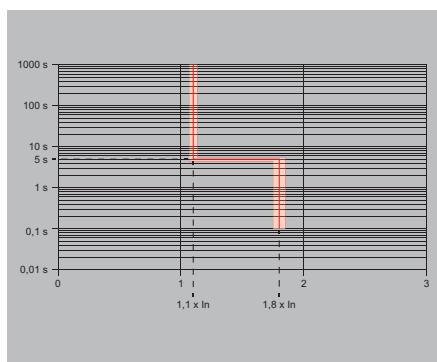
- Current and characteristic curves for adjustable load monitoring systems can be selected using the thumbwheel switch.
- New settings during operation are only applied by switching the system on/off.

ELM6	1	2	3	4	6	1	2	3	4	6
Factory settings					↑					
Triggering current	1 A	2 A	3 A	4 A	6 A	1 AT	2 AT	3 AT	4 AT	6 AT



AMG ELM-1 LIM EX CL2 with current limiting characteristics

- Safe line protection already with cables starting with 0.25mm² cross section.
- Adjustable load monitoring in 5 steps from 0.1...1A



Internal signal line:

- The internal signal line is used to switch the signals: alarm, I>90 %, reset, ON/OFF
- Since the signal line can only accept one status at a time, the signals are processed according to priority:

Bus status	Priority	Encoders
Reset	high	AMG FIM-C / AMG CM
ON/OFF	medium to high	AMG CM
Alarm	medium	AMG ELM
Advance warning (I>90 %)	medium to low	AMG ELM
IDLE	low	AMG FIM-C / AMG CM
Wire breakage	low	AMG ELM

maxGUARD - Accessories

Cross-connections orange



	Type	Qty.	Order No.
2-pin	ZQV 4N/2	60	1527930000
3-pin	ZQV 4N/3	60	1527940000
4-pin	ZQV 4N/4	60	1527970000
5-pin	ZQV 4N/5	60	1527980000
6-pin	ZQV 4N/6	20	1527990000
7-pin	ZQV 4N/7	20	1528020000
8-pin	ZQV 4N/8	20	1528030000
9-pin	ZQV 4N/9	20	1528070000
10-pin	ZQV 4N/10	20	1528090000
50-pin	ZQV 4N/50	5	1528130000

Cross-connections blue



	Type	Qty.	Order No.
	ZQV 4N/2 BL	60	1528040000
	ZQV 4N/3 BL	60	1528080000
	ZQV 4N/4 BL	60	1528120000
	ZQV 4N/5 BL	60	1528140000
	ZQV 4N/6 BL	20	1528170000
	ZQV 4N/7 BL	20	1528180000
	ZQV 4N/8 BL	20	1528190000
	ZQV 4N/9 BL	20	1528220000
	ZQV 4N/10 BL	20	1528230000
	ZQV 4N/50 BL	5	1528240000

Cross-connections red



	Type	Qty.	Order No.
	ZQV 4N/2 RD	60	2460450000
	ZQV 4N/3 RD	60	2460810000
	ZQV 4N/4 RD	60	2460800000
	ZQV 4N/5 RD	60	2460790000
	ZQV 4N/6 RD	20	2460780000
	ZQV 4N/7 RD	20	2460770000
	ZQV 4N/8 RD	20	2460760000
	ZQV 4N/9 RD	20	2460750000
	ZQV 4N/10 RD	20	2460740000
	ZQV 4N/50 RD	5	2460730000

maxGUARD - Accessories

Partition plate and end plate



	Type	Qty.	Order No.
	AMG PP	10	2123000000
	AMG EP	10	2495380000
	AMG EP KIT		2500760000

End bracket



	Type	Qty.	Order No.
	WEW 35/2 SW	100	1061210000
	WEW 35/2 VO GF SW	100	1479000000

Cutting tool for cross-connectors



	Type	Qty.	Order No.
	KT 14	1	1157820000

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