

Power supply

Load monitoring with integrated potential distribution

maxGUARD – the innovative control voltage distribution system



Load monitoring and potential distribution in one complete solution

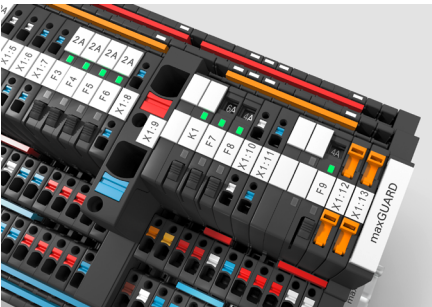
maxGUARD – taking control voltage distribution to a new level

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 %.



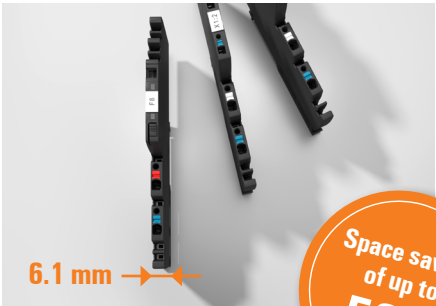
Extreme ease of servicing

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



Particularly space-saving

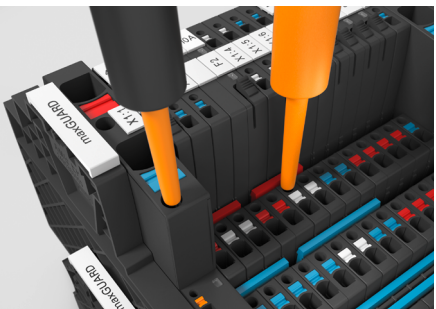
Electronic load monitors and potential distributors with a 6.1 mm pitch.



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.



now up to
70°C
usable

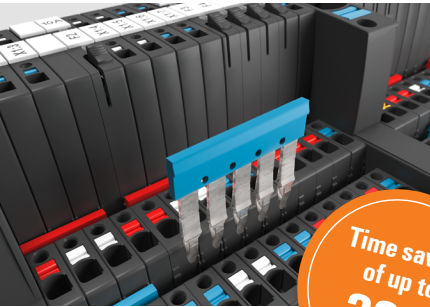
Practical disconnecting lever

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.



Time saving
of up to
20 %

Can be used in a customised way

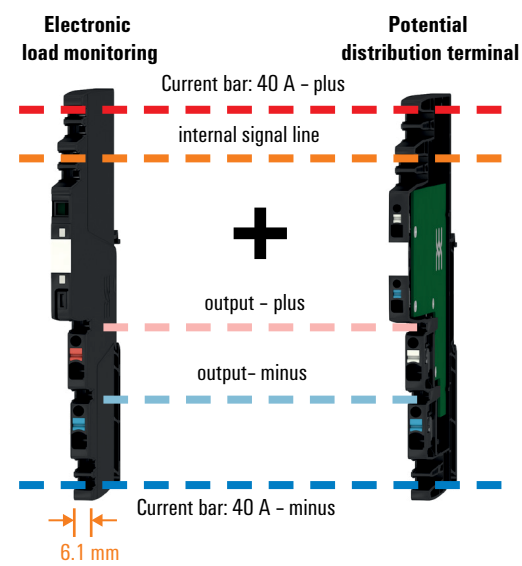
The sheer range of variants and the very different potential distribution terminals and additional components enable customised solutions at all times.



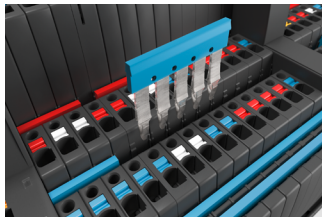
maxGUARD – the concept

Time- and space-saving control voltage distribution

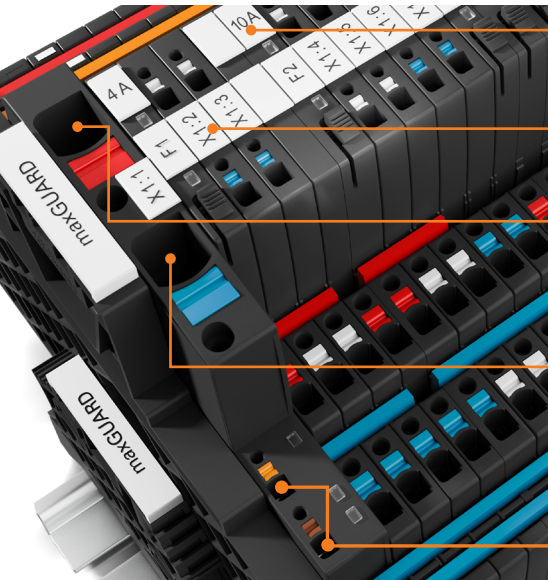
Combination of load monitoring and potential distribution



- 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

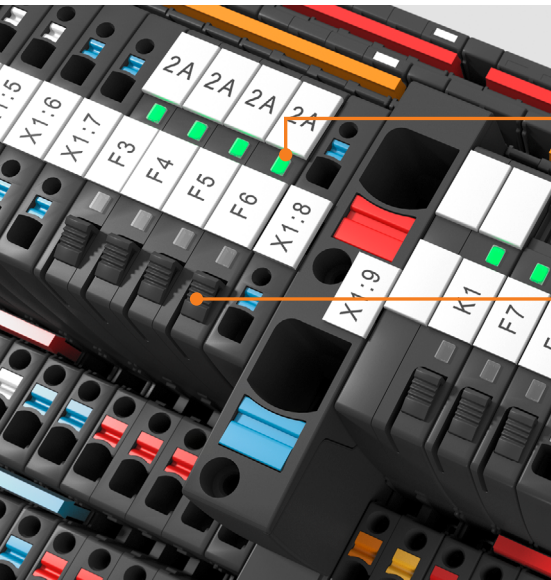


- Markers for current strength
- Continuous marker channel for equipment ID
- Supply terminal (positive): 16 mm²
- Supply terminal (negative): 16 mm²
- Reset input and alarm output for connecting to the PLC

New: maxGUARD with extended current range



Signaling LEDs enable immediate status indication and monitoring

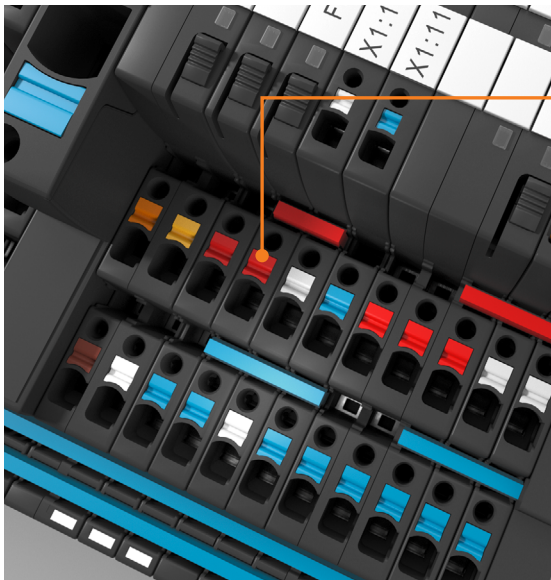


Green/red LED status indicator

LED Status	Meaning
LED green	Load monitoring is switched on
LED green flashing	Overcurrent advance warning (>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.

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

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).

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.

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.


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.


maxGUARD – product overview

Flexible and modular design


Supply terminals, control and alarm modules




Supply terminal
16 mm²
Passive



Supply terminal
16 mm²
With alarm and reset
function




Control module
Alarm
Reset
>90 %
ON/OFF




Alarm module
Potential-free
contacts for
alarm
>90 %


Electronic load monitoring




Fixed-value modules
1 / 2 / 4 / 6 A
6.1 mm housing
8 A / 10 A
12.2 mm housing




Adjustable module
1 - 2 - 3 - 4 - 6 A
6.1 mm housing
4 - 6 - 8 - 10 - 12 A
12.2 mm housing
10 - 12 - 14 - 16 - 18 A
12.2 mm housing



Adjustable module
0,1...1A
6.1 mm housing
with current limiting
function

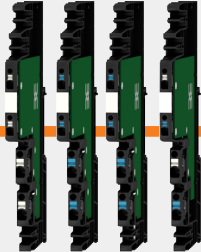


Fixed-value modules
1 / 2 / 4 A
Class 2
6.1 mm housing




Adjustable modules
with 2-pole output relay
1 - 2 - 3 - 4 - 6 A
18.3 mm housing
4 - 6 - 8 - 10 A
18.3 mm modules


Potential distribution and accessories



Modules for potential distribution
AMG OD: 2 x Plus, 2 x Minus
AMG PD: 4 x Plus
AMG MD: 4 x Minus
AMG XMD: 4 x Minus (direct)



Terminal block
for all pole disconnection
of the load
AMG DIS



Isolating plate, end plate
and bracket
for isolation, structuring and
proper fit
of the DC station

Power-feed, control and alarm module

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

Load monitoring (fixed value)

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

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

Load monitoring adjustable

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

Type	Order No.
AMG ELM-6	2080360000
AMG ELM-6 EX	2082000000
AMG ELM-12	2080410000
AMG ELM-12 EX	2082010000
AMG ELM-18	2859800000
AMG ELM-18 EX	2838520000

Load monitoring adjustable

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

Type	Order No.
AMG ELM-1 LIM CL2 EX	2838530000

Load monitoring (fixed value)
Class 2

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

Type	Order No.
AMG ELM-1F CL2	2491270000
AMG ELM-2F CL2	2491280000
AMG ELM-4F CL2	2491290000

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)

Type	Order No.
AMG ELM-6D CO	2082440000
AMG ELM-10D CO	2082470000

Potential distributor

Flexible application through various potential distributor.

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

End plate and Separation plate

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

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

Load monitoring adjust table

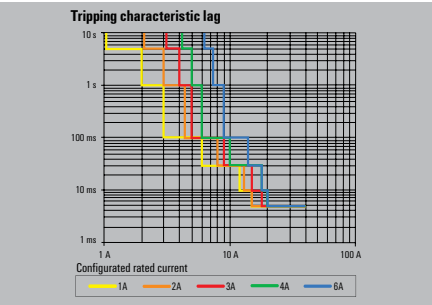
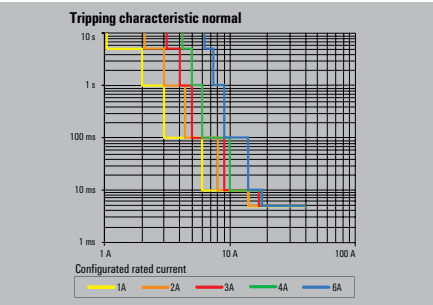
maxGUARD – accessories and order information

Technical data for your planning activities

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

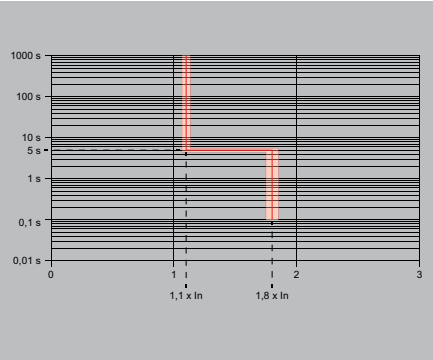
- Current and characteristic curves for adjustable load monitoring systems can be selected using the thumbwheel switch.
- New settings during operation are only applied by switching the system on/off.

ELMG	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

Reset
ON/OFF
Alarm
Advance warning (I>90 %)
IDLE
Wire breakage

Priority

high
medium to high
medium
medium to low
low
low

Encoders

AMG FIM-C / AMG CM
AMG CM
AMG ELM
AMG ELM
AMG FIM-C / AMG CM
AMG ELM

maxGUARD – Accessories

Cross-connections orange



Type	Qty.	Order No.
2-pin	60	1527930000
3-pin	60	1527940000
4-pin	60	1527970000
5-pin	60	1527980000
6-pin	20	1527990000
7-pin	20	1528020000
8-pin	20	1528030000
9-pin	20	1528070000
10-pin	20	1528090000
50-pin	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 V0 GF SW	100	1479000000

Cutting tool for cross-connectors



Type	Qty.	Order No.
KT 14	1	1157820000

Weidmüller – Your partner in Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

We cannot guarantee that there are no mistakes in the publications or software provided by us to the customer for the purpose of making orders. We try our best to quickly correct errors in our printed media.

All orders are based on our general terms of delivery, which can be reviewed on the websites of our group companies where you place your order. On demand we can also send the general terms of delivery to you.

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
32758 Detmold, Germany
T +49 5231 14-0
F +49 5231 14-292083
info@weidmueller.com
www.weidmueller.com

Your local Weidmüller partner can
be found on our website:
www.weidmueller.com/countries