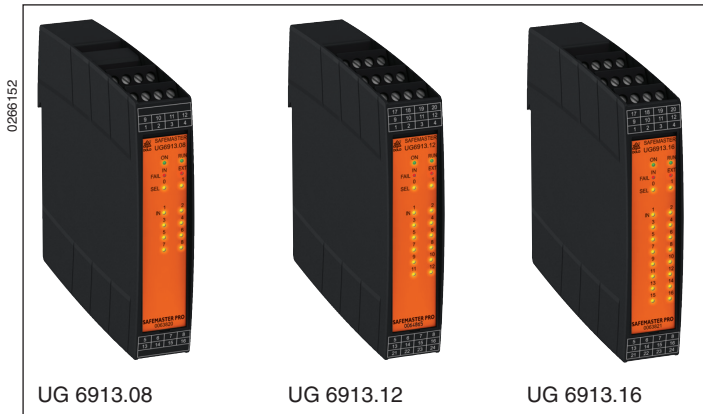
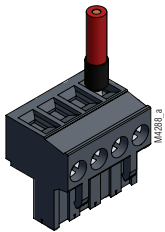


## SAFEMASTER PRO Configurable Safety System Input Modules UG 6913.08, UG 6913.12, UG 6913.16



0266152

### Pluggable Terminal Block



Terminal block with screw terminals (PS / plug in screw)

### Advantages of SAFEMASTER PRO

- For safety applications up to PLe, Cat. 4 and SIL 3
- Less wiring because of configuration software SAFEMASTER PRO Designer
- Easy planning because of Drag & Drop via graphic configuration software
- Time and cost saving installation
- Reduced wiring and space saving in cabinets
- Flexible extension with safety input and output modules
- Easy extendable via BUS-Rail
- Comprehensive fault localisation and diagnostic
- Memory card as option for simple maintenance
- Compact design: Base- and extension modules with only 22.5 mm width

### Features

- 8, 12 or 16 safety, single-channel inputs, single-channel connection in pairs
- 4 (UG 6913.08 and UG 6913.16) e.g. 8 (UG 6913.12) test outputs for sensor monitoring
- To extend SAFEMASTER PRO via DIN rail bus (IN-Rail Bus) in an easy way
- Status LEDs for comprehensive diagnosis
- With pluggable terminal block for easy exchange of devices

### More system components for SAFEMASTER PRO

- Control unit UG 6911.10
- Input / Output module UG 6916.10
- Output module OSSD UG 6912.02 and UG 6912.04
- Output module Relay with 1 e.g. 2 safety relay outputs for volt free contact multiplication of the OSSDs UG 6912.14 and UG 6912.28
- Bus Extender UG 6918
- Field bus modules for diagnostic-connection on field bus systems UG 6952 (PROFIBUS DP), UG 6951 (CANopen), UG 6954 (PROFINET)

### Approvals and Marking



\*) only for UG 6913.08 and UG 6913.16

### Additional Information about this topic

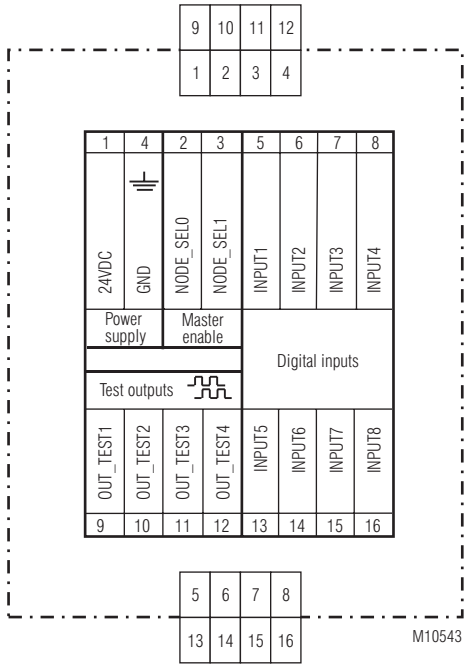
- A short description of SAFEMASTER PRO can be found in system overview SAFEMASTER PRO.
- Information about the single modules of SAFEMASTER PRO can be found in the separate data sheets.

### Applications

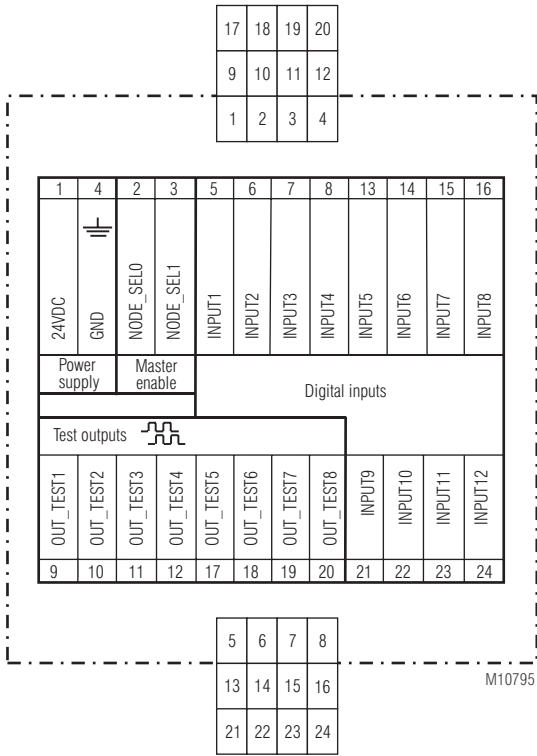
The input module UG 6913 is an input extension module to add safe inputs together with test outputs of the control unit UG 6911 to the SAFEMASTER PRO system.

### Function

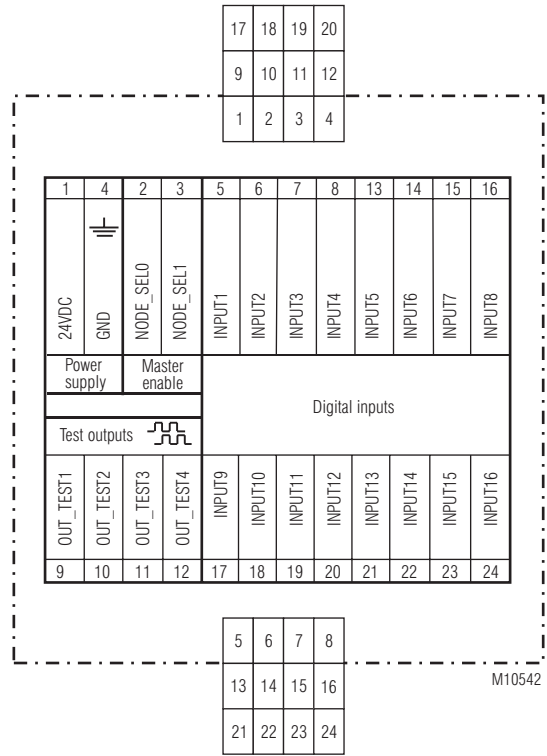
To extend the number of inputs of the control unit UG 6911 up to 4 input modules can be implemented to the SAFEMASTER PRO system together with other extension modules. The connection between the modules is done by snapping the units on the DIN rail bus of SAFEMASTER PRO.



UG 6913.08



UG 6913.12



UG 6913.16

**Connection Terminals** Input Module UG 6913.08, UG 6913.16

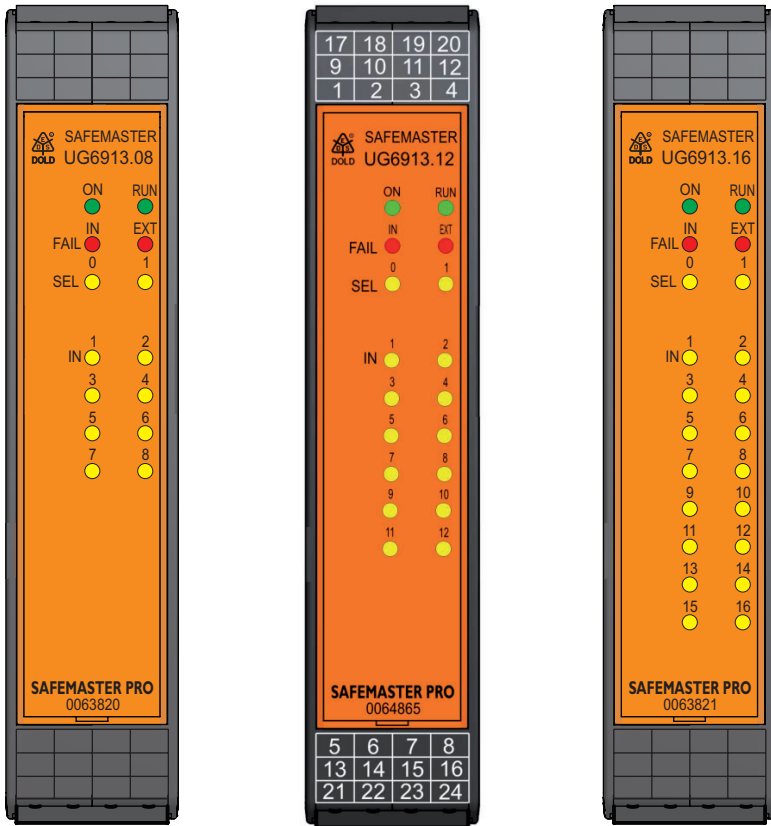
TERMINAL	SIGNAL	TYPE	DESCRIPTION	OPERATION
1	24VDC	-	24V DC power supply	-
2	NODE_SEL0	Input	Node selection	I <sub>N</sub> : 7...10 mA at DC 24 V *)
3	NODE_SEL1	Input		I <sub>N</sub> : 7...10 mA at DC 24 V *)
4	GND	-	0V DC power supply	-
5	INPUT1	Input	Digital input 1	I <sub>N</sub> : 7...10 mA at DC 24 V *)
6	INPUT2	Input	Digital input 2	I <sub>N</sub> : 7...10 mA at DC 24 V *)
7	INPUT3	Input	Digital input 3	I <sub>N</sub> : 7...10 mA at DC 24 V *)
8	INPUT4	Input	Digital input 4	I <sub>N</sub> : 7...10 mA at DC 24 V *)
9	OUT_TEST1	Output	Short circuit detection output	PNP active high
10	OUT_TEST2	Output	Short circuit detection output	PNP active high
11	OUT_TEST3	Output	Short circuit detection output	PNP active high
12	OUT_TEST4	Output	Short circuit detection output	PNP active high
13	INPUT5	Input	Digital input 5	I <sub>N</sub> : 7...10 mA at DC 24 V *)
14	INPUT6	Input	Digital input 6	I <sub>N</sub> : 7...10 mA at DC 24 V *)
15	INPUT7	Input	Digital input 7	I <sub>N</sub> : 7...10 mA at DC 24 V *)
16	INPUT8	Input	Digital input 8	I <sub>N</sub> : 7...10 mA at DC 24 V *)
17	INPUT9	Input	Digital input 9	only UG 6913.16 I <sub>N</sub> : 7...10 mA at DC 24 V *)
18	INPUT10	Input	Digital input 10	
19	INPUT11	Input	Digital input 11	
20	INPUT12	Input	Digital input 12	
21	INPUT13	Input	Digital input 13	
22	INPUT14	Input	Digital input 14	
23	INPUT15	Input	Digital input 15	
24	INPUT16	Input	Digital input 16	

\*) Input ("Type B" according to EN 61131-2)

**Connection Terminals** Input Module UG 6913.12

TERMINAL	SIGNAL	TYPE	DESCRIPTION	OPERATION
1	24VDC	-	24V DC power supply	-
2	NODE_SEL0	Input	Node selection	I <sub>N</sub> : 7...10 mA at DC 24 V *)
3	NODE_SEL1	Input		I <sub>N</sub> : 7...10 mA at DC 24 V *)
4	GND	-	0V DC power supply	-
5	INPUT1	Input	Digital input 1	I <sub>N</sub> : 7...10 mA at DC 24 V *)
6	INPUT2	Input	Digital input 2	I <sub>N</sub> : 7...10 mA at DC 24 V *)
7	INPUT3	Input	Digital input 3	I <sub>N</sub> : 7...10 mA at DC 24 V *)
8	INPUT4	Input	Digital input 4	I <sub>N</sub> : 7...10 mA at DC 24 V *)
9	OUT_TEST1	Output	Short circuit detection output	PNP high aktiv
10	OUT_TEST2	Output	Short circuit detection output	PNP high aktiv
11	OUT_TEST3	Output	Short circuit detection output	PNP high aktiv
12	OUT_TEST4	Output	Short circuit detection output	PNP high aktiv
13	INPUT5	Input	Digital input 5	I <sub>N</sub> : 7...10 mA at DC 24 V *)
14	INPUT6	Input	Digital input 6	I <sub>N</sub> : 7...10 mA at DC 24 V *)
15	INPUT7	Input	Digital input 7	I <sub>N</sub> : 7...10 mA at DC 24 V *)
16	INPUT8	Input	Digital input 8	I <sub>N</sub> : 7...10 mA at DC 24 V *)
17	OUT_TEST5	Input	Short circuit detection output	PNP high aktiv
18	OUT_TEST6	Input	Short circuit detection output	PNP high aktiv
19	OUT_TEST7	Input	Short circuit detection output	PNP high aktiv
20	OUT_TEST7	Input	Short circuit detection output	PNP high aktiv
21	INPUT19	Input	Digital input 9	I <sub>N</sub> : 7...10 mA at DC 24 V *)
22	INPUT10	Input	Digital input 10	I <sub>N</sub> : 7...10 mA at DC 24 V *)
23	INPUT11	Input	Digital input 11	I <sub>N</sub> : 7...10 mA at DC 24 V *)
24	INPUT12	Input	Digital input 12	I <sub>N</sub> : 7...10 mA at DC 24 V *)

\*) Input ("Type B" according to EN 61131-2)



DESCRIPTION	LED				
	RUN GREEN	IN FAIL RED	EXT FAIL RED	SEL ORANGE	IN1 ... 16 RED/GREEN
Power ON - initial TEST	ON	ON	ON	ON	ON

Indication at start-up and test mode

DESCRIPTION	LED				
	RUN GREEN	IN FAIL RED	EXT FAIL RED	SEL ORANGE	IN1 ... 16 RED/GREEN
Normal operation	<b>OFF</b> if the unit is waiting for the first communication from the CONTROL UNIT	<b>OFF</b>	<b>OFF</b>	Indicate the signals NODE_SEL1/2	INPUT state
	<b>Flashes</b> if no INPUT or OUTPUT requested by the configuration		<b>ON</b> incorrect external connection detected		only the number of the INPUT with the incorrect connection flashes
	<b>ON</b> if INPUT or OUTPUT requested by the configuration				

Indication during normal operation

## Troubleshooting

DESCRIPTION	LED	IN FAIL RED	EXT FAIL RED	SEL ORANGE	IN1 ... 16 YELLOW	REMEDY
	RUN GREEN					
Internal fault	OFF	2 x or 3 x flashing	OFF		OFF	The modul has to be repaired Return the unit to DOLD
Compatibility error	OFF	5 x flashing	OFF		5 x flashing	<ul style="list-style-type: none"> <li>Firmware-Version not compatible to control unit UG 6911.10</li> <li>Return the unit to DOLD for Firmware-updade .</li> </ul>
Error in communication with control unit	OFF	5 x flashing	OFF	Indicate the physical address of the unit	OFF	<ul style="list-style-type: none"> <li>Restart the system</li> <li>If the problem persists return the UG 6913.16 / 08 to DOLD</li> <li>The modul has to be repaired.</li> </ul>
Error on other extension module or error at control unit UG 6911.10	OFF	ON	OFF		OFF	<ul style="list-style-type: none"> <li>Restart the system</li> <li>Check which unit is in FAIL mode</li> </ul>
Same type of expansion unit with same address detected	OFF	5 x flashing	5 x flashing		OFF	<ul style="list-style-type: none"> <li>Change the unit's address (see table below "Signal description ")</li> </ul>

Troubleshooting UG 6913.16

## Signal Description - NODE\_SEL -

The NODE\_SEL0 and NODE\_SEL1 inputs on the expansion units are used to attribute a physical address to the expansion units with the connections

	NODE_SEL0	NODE_SEL1
SLAVE-MODUL 0	0 (or not connected)	0 (or not connected)
SLAVE-MODUL 1	0 (or not connected)	24VDC
SLAVE-MODUL 2	24VDC	0 (or not connected)
SLAVE-MODUL 3	24VDC	24VDC

## Technical Data

**Nominal voltage:** DC 24V ± 20%  
**Nominal consumption:** max. 3 W

## Inputs

### Digital inputs\*):

UG 6913.08: 8  
UG 6912.12: 12  
UG 6913.16: 16

### Input for Node selection

**NODE\_SEL0/1\*):** 2

\*) "Type B" according to EN 61131-2 I<sub>N</sub>: 7...10 mA at DC 24 V

## Outputs

### Test outputs:

UG 6913.08, UG 6913.16: 4  
UG 6913.12: 8  
to check for short-circuits

## General Data

### Connection to

**control unit:** proprietary 5-pole bus  
(DOLD IN-RAIL-BUS)

**Nominal operating mode:** continuous operation

### Temperature range

Operation temperature: -10 ... + 55 °C  
Storage temperature: -20 ... + 85 °C  
Relative humidit: 10 % ... 95 %

### Degree of protection:

Housing: IP 40 IEC/EN 60 529  
Terminals: IP 20 IEC/EN 60 529

### Plug in with screw terminals

max. cross section  
for connection: 1 x 0,25 ... 2,5 mm<sup>2</sup> solid or  
stranded ferruled (isolated) or  
2 x 0,25 ... 1,0 mm<sup>2</sup> solid or  
stranded ferruled (isolated)

Insulation of wires

or sleeve length: 7 mm

**Wire fixing:** captive slotted screw M3

Tightening torque: 0.5 ... 0.6 Nm

Max. cable length: 100 m

**Mounting:** DIN-Rail IEC/EN 60 715

**Weight:** approx. 190 g

## Dimension

**Width x height x depth:** 22.5 x 109 x 120.3 mm

## Technical Data

### Safety Related Data

(only in combination with SAFEMASTER PRO)

### Values according to EN ISO 13849-1:

Category: 4  
PL: e  
MTTF<sub>d</sub>: 30 ... 100 a  
DC<sub>avg</sub>: high

### Values according to IEC EN 62061 / IEC EN 61508:

SIL CL: 3 IEC EN 62061  
SIL 3 IEC EN 61508  
DC<sub>avg</sub>: high  
PFH<sub>D</sub>: 10E-8 ... 10E-7 h<sup>-1</sup>



The evaluation of the max. possible values is made according to the system configuration by the SAFEMASTER PRO DESIGNER software.

The safety relevant data of the complete system has to be determined by the manufacturer of the system.

## UL-Data

**The safety functions were not evaluated by UL. Listing is accomplished according to requirements of Standard UL 508, "general use applications"**

**Nominal voltage U<sub>N</sub>:** DC 24 V  
± 20 % / current supply class II or  
voltage and current limits.

**Nominal consumption:** max. 3 W

**Wire connection:** 60°C / 75°C copper conductors only  
AWG 30 - 12 Sol/Str Torque 5-7 lb-in

**Note:** For use in pollution degree 2  
overvoltage category II environment only



**Technical data that is not stated in the UL-Data, can be found in the technical data section.**

## Standard Types

UG 6913.16 DC 24 V

Article number: 0063821

- 16 safety, single-channel inputs
- Nominal voltage: DC 24 V
- Width: 22.5 mm

UG 6913.08 DC 24 V

Article number: 0063820

- 8 safety, single-channel inputs
- Nominal voltage: DC 24 V
- Width: 22.5 mm

## System Components for SAFEMASTER PRO and Accessories

TYPE	DESCRIPTION	Article number
UG 6911.10	Control unit (8 inputs / 2 dual-channel OSSDs with SAFEMASTER PRO DESIGNER Software)	0063818
UG 6916.10	Input / Output module (8 inputs / 2 dual-channel OSSDs)	0063819
UG 6913.08	Input module (8 inputs)	0063820
UG 6913.12	Input module (12 inputs)	0064865
UG 6913.16	Input module (16 inputs)	0063821
UG 6912.02	Output module OSSD (2 dual-channel OSSD)	0063822
UG 6912.04	Output module OSSD (4 dual-channel OSSD)	0063823
UG 6912.14	Output module Relay (1 safety relay output)	0063824
UG 6912.28	Output module Relay (2 safety relay outputs)	0063825
UG 6918	Bus Extender	0064866
UG 6951	Fieldbus module (CANopen)	0063828
UG 6952	Fieldbus module (Profibus DP)	0063826
UG 6954	Fieldbus module (PROFINET)	0064861
OA 6911	Memory chip (external memory)	0063829
OA 6920	USB-cable for PC connection	0064160
BU 6921	Mounting kit IN-RAIL-Bus 250 mm for DIN-rail 7.5 mm	0064244
BU 6922	Mounting kit IN-RAIL-Bus 250 mm for DIN-rail 15 mm	0064245

