dimensions	**88.2 x 30.6 x 27.3mm**	
	129.7 x 30.6 x 27.3mm	
	149.7 x 30.6 x 27.3mm	
logic module	**1 x 4-way**	**AND/OR**
	2 x 2-way	**AND**
	1x 8-way	**AND/OR**
	2 x 4-way	**AND**
	1 x 10-way	**AND/OR**
	2 x 5-way	**AND**

- ✓ **flat, robust design**
- ✓ **5-pin M12-connector for the connection cable to the control unit**
- ✓ **3-pin assignment of the M8-sockets for inputs**
- ✓ **LED status displays**
- ✓ **easy and vibration-proof connection of sensor cables**
- ✓ **fully casted electronics**
- ✓ **degree of protection IP67**

AND / OR logic operation
minimized amount of cabling

PNP | M12 | DC

description

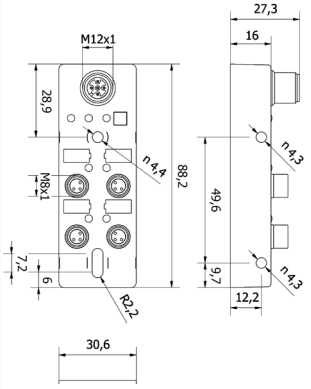
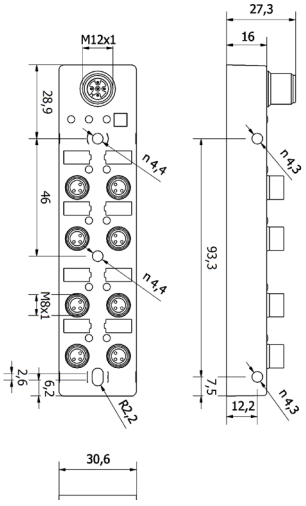
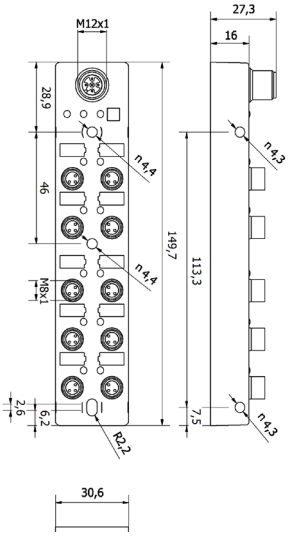
It is often the case, that the signals of many sensors are linked in an application in order to provide a statement about an operational state.
If this linkage is adopted in the control unit, it is necessary to run the signals of each sensor up until there via leads, and process them in the control program.
In many cases, it would be sufficient to link the sensor signals to one another on-site and only transmit one linked end-signal to the control unit.
ipf electronic logic distribution terminals are used for this purpose. According to the module, up to 10 sensors can be connected and logically linked to one another. AND and/or OR versions are available as logical variants.

The user can directly see which signals are pending and/or which are missing (as the case may be) by means of LED status display of the logic modules. The status of the linked end signals is similarly shown via output LEDs. All versions have two separated signal outputs. In the 2 x 2-way / 2 x 5-way types, the input signals of the right and left module halves are linked independent from each other.

In the other logic modules, one output issues the result of the AND link and the other issues the result of the OR link.
If, in the case of an AND module, an input slot cannot be taken up by a sensor, a so-called “jumper” plug can be supplied.

application examples

- ▶ signal linkage of multiple sensors

article no.	VL310104	VL310108	VL31010A
output	AND- / OR-liked, 4-way	AND- / OR-linked, 8-way	AND- / OR-linked, 10-way
			
TECHNICAL DATA			
ELECTRICAL DATA			
input	pnp, no (signal on pin 4)	pnp (signal on pin 4)	pnp (signal on pin 4)
output (linked)	AND 4-way, OR 4-fway	AND 8-way, OR 8-way	AND 10-way, OR 10-way
operating voltage	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC
current consumption (max. load)	1A	1A	1A
output current (max. load)	200mA	200mA	200mA
insulation resistance	≥ 10⁸Ω	≥ 10⁸Ω	≥ 10⁸Ω
connection (module)	M12-connector, 4-pin	M12-connector, 4-pin	M12-connector, 4-pin
connection (sensors)	4 x M8-coupling, 3-pin	4 x M8-coupling, 3-pin	4 x M8-coupling, 3-pin
MECHANICAL DATA			
dimensions	88.2 x 30.6 x 27.3mm	129.7 x 30.6 x 27.3mm	149.7 x 30.6 x 27.3mm
display (function)	only when using a connection cable with LED	only when using a connection cable with LED	only when using a connection cable with LED
status LED (input signal)	1 x LED yellow per slot	1 x LED yellow per slot	1 x LED yellow per slot
status LED (output signal)	LED yellow per output	LED yellow per output	LED yellow per output
material (housing)	plastic PA	plastic PA	plastic PA
material (contacts)	CuZn, gold-plated	CuZn, gold-plated	CuZn, gold-plated
material (sealing)	FPM/FKM	FPM/FKM	FPM/FKM
temperature (operating)	-25 ... +70°C	-30 ... +90°C	-30 ... +90°C
plug-in cycles	> 100	> 100	> 100
degree of soiling	3	3	3
degree of protection (mounted)	IP67	IP67	IP67

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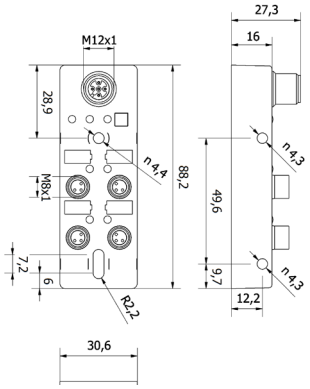
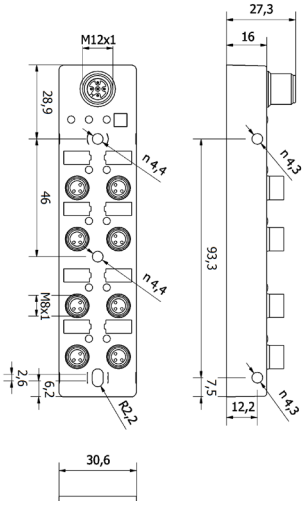
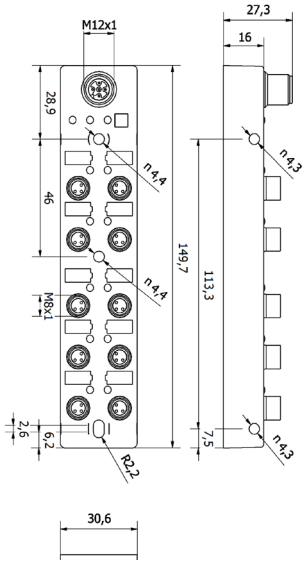
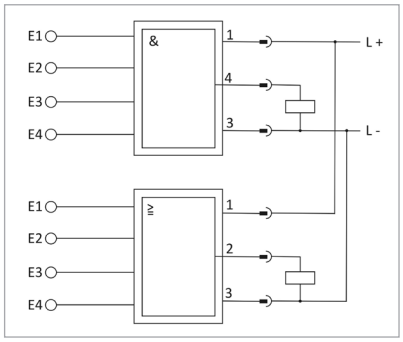
article no.	VL310114	VL310118	VL31011A
output	AND, 2 x 2-way, 4-way	AND, 2 x 4-way, 8-way	AND, 2 x 5-way, 10-way
			
TECHNICAL DATA			
ELECTRICAL DATA			
input	pnp (signal on pin 4)	pnp (signal on pin 4)	pnp (signal on pin 4)
output (linked)	AND, 2 x 2-way, 4-way	AND, 2 x 4-way, 8-way	AND, 2 x 5-way, 10-way
operating voltage	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC
current consumption (max. load)	1A	1A	1A
output current (max. load)	200mA	200mA	200mA
insulation resistance	≥ 10^8Ω	≥ 10^8Ω	≥ 10^8Ω
connection (module)	M12-connector, 5-pin	M12-connector, 5-pin	M12-connector, 5-pin
connection (sensors)	4 x M8-coupling, 3-pin	4 x M8-coupling, 3-pin	4 x M8-coupling, 3-pin
MECHANICAL DATA			
dimensions	88.2 x 30.6 x 27.3mm	129.7 x 30.6 x 27.3mm	149.7 x 30.6 x 27.3mm
display (function)	only when using a connection cable with LED	only when using a connection cable with LED	only when using a connection cable with LED
status LED (input signal)	1 x LED yellow per slot	1 x LED yellow per slot	1 x LED yellow per slot
status LED (output signal)	LED yellow per output	LED yellow per output	LED yellow per output
material (housing)	plastic PA	plastic PA	plastic PA
material (contacts)	CuZn, gold-plated	CuZn, gold-plated	CuZn, gold-plated
material (sealing)	FPM/FKM	FPM/FKM	FPM/FKM
temperature (operating)	-30 ... +90°C	-30 ... +90°C	-30 ... +90°C
plug-in cycles	> 100	> 100	> 100
degree of soiling	3	3	3
degree of protection (mounted)	IP67	IP67	IP67

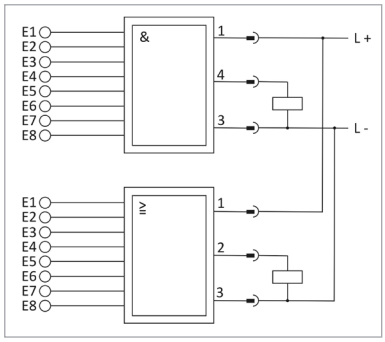
connection

VL310104



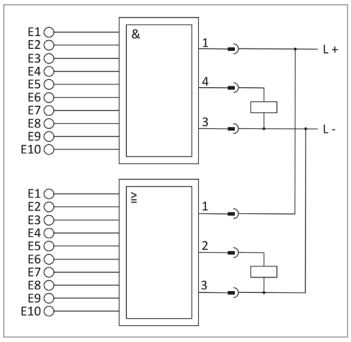
colors:
1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black),
functions:
1= L+, 2= PNP NO, 3= L-, 4= PNP NO

VL310108



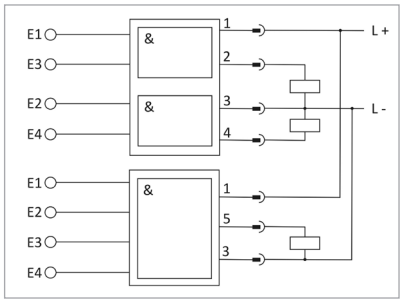
colors:
1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black),
functions:
1= L+, 2= PNP NO, 3= L-, 4= PNP NO

VL31010A



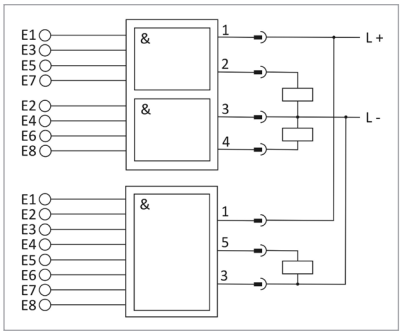
colors:
1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black),
functions:
1= L+, 2= PNP NO, 3= L-, 4= PNP NO

VL310114



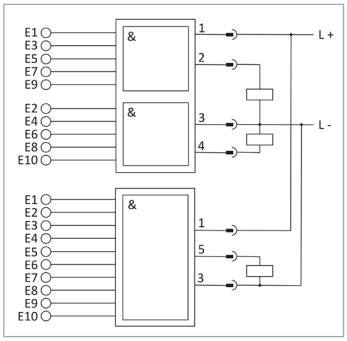
colors:
1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black), 5= GY (gray)
functions:
1= L+, 2= PNP NO, 3= L-, 4= PNP NO,
5= PNP NO

VL310118



colors:
1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black), 5= GY (gray)
functions:
1= L+, 2= PNP NO, 3= L-, 4= PNP NO,
5= PNP NO

VL31011A



colors:
1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black), 5= GY (gray)
functions:
1= L+, 2= PNP NO, 3= L-, 4= PNP NO,
5= PNP NO

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