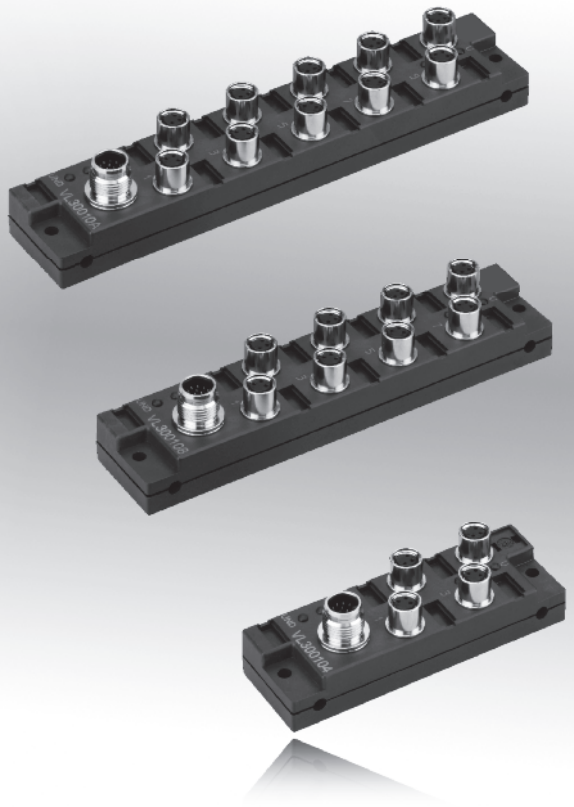
| | | |
|---|---|---|
| design | **30 x 90.4 x 25.5mm**<br>**30 x 136.4 x 25.5mm**<br>**30 x 159.4 x 25.5mm** | |
| **logic module** | 1 x 4-way | **AND / OR** |
| | 2 x 2-way | **AND respectively OR** |
| | 1 x 8-way | **AND / OR** |
| | 2 x 4-way | **AND respectively OR** |
| | 1 x 10-way | **AND / OR** |
| | 2 x 5-way | **AND** |



- ✓ **flat robust design**
- ✓ **12-pin M12-connector for the connection line to the control unit**
- ✓ **3-pin assignment of the M8-sockets for inputs**
- ✓ **LED status displays**
- ✓ **system of protection IP67**
- ✓ **simple vibration-proof connection of sensor leads**

**AND / OR logic operation on location minimized amount of cabling**

PNP | M8 | DC

**description**

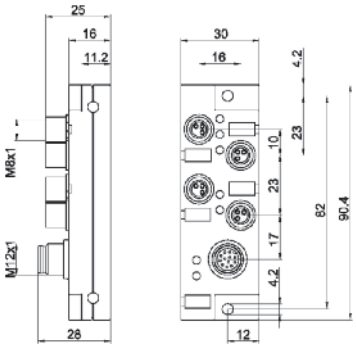
It is often the case, that the signals of many sensors are linked in an application in order to provide a statement about an operational state.
If this linkage is adopted in the control unit, it is necessary to run the signals of each sensor up until there via leads, and process them in the control program.
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.

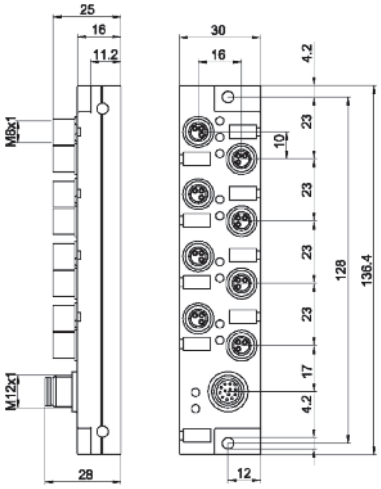
**application examples**

- ▶ signal linkage of multiple sensors

# 1600 logic modules

| | | |
|---|---|---|
| **article-no.** | **VL300104** | **VL300108** |
| **output** | **AND- / OR-linked, 4-way** | **AND- / OR-linked, 8-way** |
| **article-no.** | **VL300114** | **VL300118** |
| **output** | **AND-linked, 2 x 2-way** | **AND-linked, 2 x 4-way** |
| **article-no.** | **VL300134** | **VL300138** |
| **output** | **OR-linked, 2 x 2-way** | **OR-linked, 2 x 4-way** |

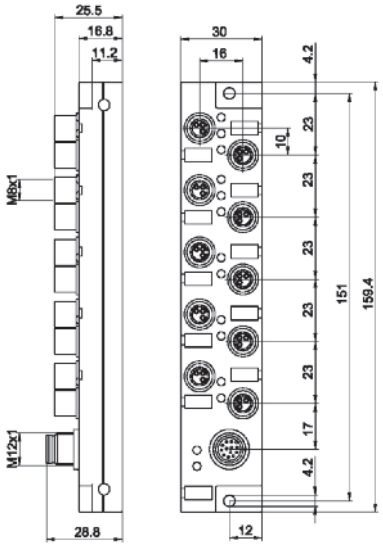



## TECHNICAL DATA

| | | |
|---|---|---|
| input | pnp, no (signal on pin 4) | pnp, no (signal on pin 4) |
| output (linked) | see above | see above |
| operating voltage | 10 ... 30V DC | 10 ... 30V DC |
| current consumption (max. load) | 1A | 1A |
| output current (max. load) | 200mA per output | 200mA per output |
| insulation resistance | > $10^9\Omega$ | > $10^9\Omega$ |
| display (function) | operating voltage: 1 x green LED | operating voltage: 1 x green LED |
| display (signal) | 1 x yellow LED per slot | 1 x yellow LED per slot |
| housing material | plastic (PBT) | plastic (PBT) |
| contact material | CuZn, pre-nickled and gold-plated<br>plug-in and pull-out power ≥ 0.5N | CuZn, pre-nickled and gold-plated<br>plug-in and pull-out power ≥ 0.5N |
| design | 30x90.4x25.5mm | 30x125.4x25.5mm |
| operating temperature | -25 ... +70°C | -25 ... +70°C |
| plug-in cycles | ≤ 50 | ≤ 50 |
| degree of soiling | 3 | 3 |
| inflammability class | UL 94 V-0 | UL 94 V-0 |
| system of protection (EN 60529) | IP67 - only when screwed to the<br>corresponding matching parts or plank plugs | IP67 - only when screwed to the<br>corresponding matching parts or plank plugs |
| connection | module: M12-connector, 12-pin | module: M12-connector, 12-pin |
| connection accessories | cable socket e.g. **VK200C25**, 2m, PUR, straight | cable socket e.g. **VK200C25**, 2m, PUR, straight |
| connection | sensors: 4 x M8-socket, 3-pin | sensors: 8 x M8-socket, 3-pin |
| connection accessories | connection cable, e.g. **VK200F74**, 2m, PUR, straight | connection cable, e.g. **VK200F74**, 2m, PUR, straight |

| | |
|---|---|
| **article-no.** | **VL30010A** |
| **output** | **AND- / OR-linked, 10-way** |
| **article-no.** | **VL30011A** |
| **output** | **AND-linked, 2 x 5-way** |




## TECHNICAL DATA

| | |
|---|---|
| input | pnp, no (signal on pin 4) |
| output (linked) | see above |
| operating voltage | 10 ... 30V DC |
| current consumption (max. load) | 1A |
| output current (max. load) | 200mA per output |
| insulation resistance | > $10^9\Omega$ |
| display (function) | operating voltage: 1 x green LED |
| display (signal) | 1 x yellow LED per slot |
| housing material | plastic (PBT) |
| contact material | CuZn, pre-nickled and gold-plated<br>plug-in and pull-out power ≥ 0.5N |
| design | 30x90.4x25.5mm |
| operating temperature | -25 ... +70°C |
| plug-in cycles | ≤ 50 |
| degree of soiling | 3 |
| inflammability class | UL 94 V-0 |
| system of protection (EN 60529) | IP67 - only when screwed to the<br>corresponding matching parts or plank plugs |
| connection | module: M12-connector, 12-pin |
| connection accessories | cable socket e.g. **VK200C25**, 2m, PUR, straight |
| connection | sensors: 10 x M8-socket, 3-pin |
| connection accessories | connection cable, e.g. **VK200F74**, 2m, PUR, straight |

# 1600 logic modules

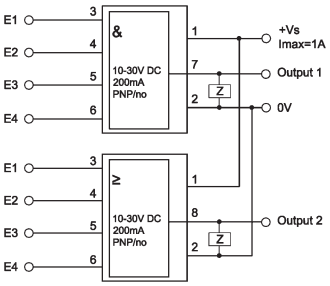
**connection**

| M12-connector pin assignment | | 4-way logic module | 8-way logic module |
|---|---|---|---|
| 1 | (brown) | + 24V DC | + 24V DC |
| 2 | (blue) | 0V DC | 0V DC |
| 3 | (white) | E1 | output 1 |
| 4 | (green) | E2 | output 2 |
| 5 | (pink) | E3 | - |
| 6 | (yellow) | E4 | - |
| 7 | (black) | output 1 | output 1 |
| 8 | (grey) | output 2 | output 2 |
| 9 | (red) | - | - |
| 10 | (purple) | - | - |
| 11 | (grey/pink) | - | - |
| 12 | (red/blue) | - | - |

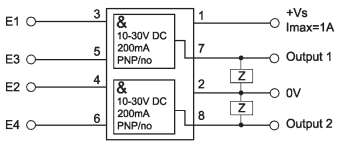
wire colors of the cable socket (module) in brackets

**wiring diagrams**

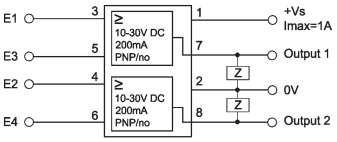
**VL300104** 4-way



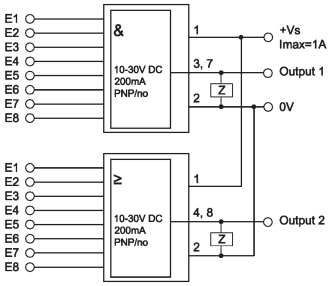

**VL300114** 2 x 2-way



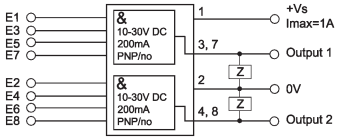

**VL300134** 2 x 2-way



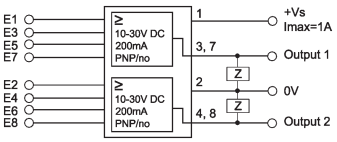

**VL300108** 8-way



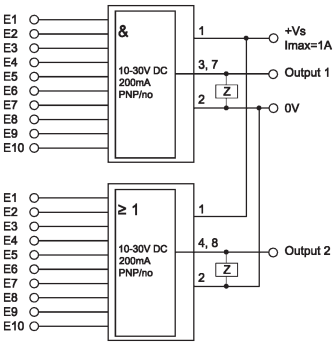

**VL300118** 2 x 4-way



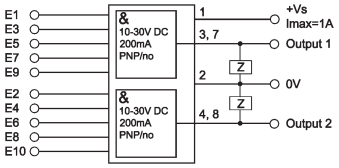

**VL300138** 2 x 4-way




**VL30010A** 10-way




**VL30011A** 2 x 5-way




E1 to E10 are the inputs of the connected sensors (connections of the M8-connectors)
1 to 10 are the pin configurations of the module (connection for the M12-cable socket)

**ACCESSORIES**

| article-no. | description | material |
|---|---|---|
| **VK000034** | blank plug M8, 2x included in the scope of delivery | plastic |
| **VK000042** | jumper simulation "switching output on" | |

**Warning:** Never use these devices in applications where the safety of a person depends on their functionality!