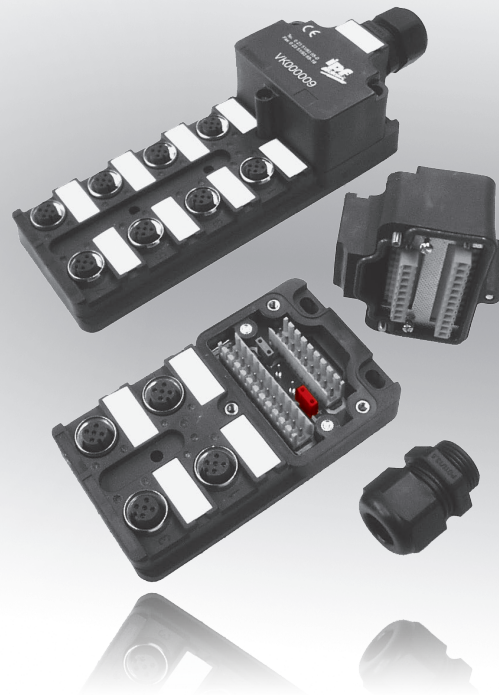


|         |                   |       |
|---------|-------------------|-------|
| design  | 102 x 60 x 41.5mm |       |
|         | 127 x 60 x 41.5mm |       |
|         | 152 x 60 x 41.5mm |       |
|         | 152 x 60 x 43mm   |       |
| version | 4-way             | 5-pin |
|         | 6-way             | 5-pin |
|         | 8-way             | 5-pin |



- ✓ flat, robust design
- ✓ plugable, connection module for bus, field-attachable
- ✓ 5-pin versions
- ✓ LED-status displays
- ✓ integrated plugable potential divider e.g. for sensor and actuator connection
- ✓ degree of protection IP67

**sensor / actuator distributor also as robust metal version**

M12

PNP

NPN

**description**

Using *ipf*-sensor-actuator-distributors economizes on material, space, weight, money and time. The expenditure for configuring and installing the electronic wiring on machines and equipment is significantly reduced by a direct mounting when compared to the individual conventional wiring.

The application of ready-made connection cables (socket/connector) minimizes the time for replacing defective sensors and lines increasing the safety at the same time as wiring errors are avoided.

Consequently, *ipf*-sensor-actuator-distributors enable the integrated connection of sensors and actuators on the power supply and distributor sides. The 5-pin M12-connector of the plastic version feature two status LEDs to display the inputs and outputs.

The operating voltage is displayed by two green LEDs. In the metal version the status LEDs have been dispensed with, thus allowing the use also of analog sensors. Name plates ensure

clear assignment of the components.

The plug-in potential divider that has been integrated in the distributors enables the splitting up in two separate circuits, e.g. for the emergency cut-off applications or for the separation of sensor and actuator potential.

Each I/O channel can be loaded with up to 2A. The total current load is 10A with a one-way power supply and 16A with a two-way power supply.

*ipf*-sensor-actuator-distributors with permanent connection cables in several lengths complete our range of products. For this purpose kindly request our special data sheets.

**application examples**

- ▶ local collective distributor with vibration proof connection of sensors and actuators
- ▶ comfortable recommissioning of pre-testet machine parts thanks to easy connection after reconstruction

| TECHNICAL DATA                   |   |
|----------------------------------|---|
| operating voltage                | 10 ... 30V DC   |
| output current (max. load)       | 2A per I/O signal<br>10A with one-way, 2 x 8A with two-way supply       |
| insulation resistance            | > 10 <sup>9</sup> Ω   |
| testing voltage                  | 1.0kVeff  |
| operation display                | operating voltage: 2 x green LED  |
| signal display                   | I/O: 1 x yellow LED per function<br>(no I/O LED with metal version)     |
| potential divider                | via 2 bridge connector (see fig. 2)                                     |
| housing material                 | plastic (PBT), metal (zinc diecast)                                     |
| contact material                 | CuZn, nickel primer and gold-plated                                     |
| inflammability class             | UL 94 V-0   |
| operating temperature            | -20 ... +90°C   |
| system of protection (EN 60529)  | IP67  |
| connection                       | pluggable coupling-top with screw terminals and cable gland             |
| cable diameter                   | max. 12mm (coupling VK000027: max. 14mm / coupling VK000028: max. 18mm) |
| contact plug-in / pull-out power | ≥ 0.5N  |
| plug-in cycles                   | max. 50   |
| degree of soiling                | 3   |

fig. 1

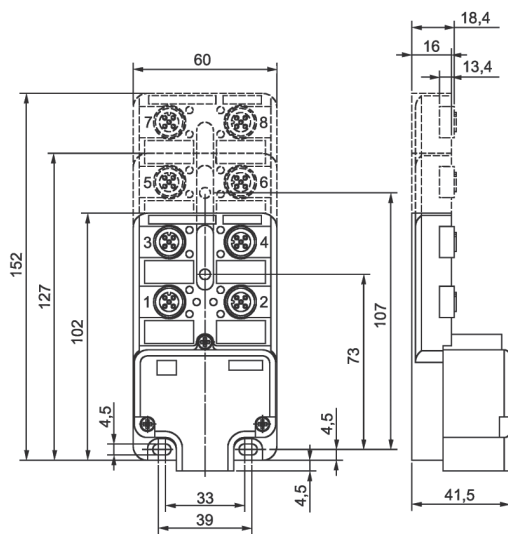
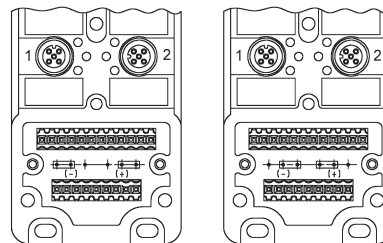


fig. 2

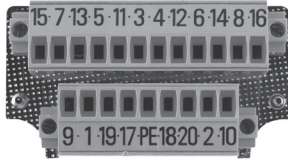
circuit programming  
illustration without cap



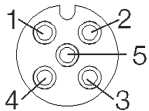
bridged potential  
(1 + 2 identical)

splitted potential  
(1 / 2 divided)

wiring diagram  
with cable AV000085



M12-socket



| terminal marking | assignment (potential) |
|------------------|------------------------|
| 1                | + 24V DC               |
| 2                | in-/output (2)         |
| 3                | - 0V                   |
| 4                | in-/output (1)         |
| 5                | PE                     |

| terminal | slot                   | input/output potential | wire colors  | code |
|----------|------------------------|------------------------|--------------|------|
| 1        | 1                      | E/A 1-1                | white        | WH   |
| 2        | 2                      | E/A 2-1                | green        | GN   |
| 3        | 3                      | E/A 3-1                | yellow       | YE   |
| 4        | 4                      | E/A 4-1                | grey         | GY   |
| 5        | 5                      | E/A 5-1                | pink         | PK   |
| 6        | 6                      | E/A 6-1                | red          | RD   |
| 7        | 7                      | E/A 7-1                | black        | BK   |
| 8        | 8                      | E/A 8-1                | purple       | VT   |
| 9        | 1                      | E/A 1-2                | grey-pink    | GYPK |
| 10       | 2                      | E/A 2-2                | red-blue     | RDBL |
| 11       | 3                      | E/A 3-2                | white-green  | WHGN |
| 12       | 4                      | E/A 4-2                | brown-green  | BNGN |
| 13       | 5                      | E/A 5-2                | white-yellow | WHYE |
| 14       | 6                      | E/A 6-2                | yellow-brown | YEBN |
| 15       | 7                      | E/A 7-2                | white-grey   | WHGY |
| 16       | 8                      | E/A 8-2                | grey-brown   | GYBN |
| 17       | 1, 3, 5, 7             | U1 + (24V DC)          | brown        | BN   |
| 18       | 1, 3, 5, 7             | U1 - (0V)              | blue         | BU   |
| 19       | 2, 4, 6, 8             | U2 + (24V DC)          | red          | RD   |
| 20       | 2, 4, 6, 8             | U2 - (0V)              | black        | BK   |
| 21       | 1, 2, 3, 4, 5, 6, 7, 8 | PE                     |              |      |

No potential divide between U1+ and U2+ for VK000020.

distributor-complete module and accessories

| article-no. | design      | description         | note         | housing | voltage   | output         | current | connection / note                             | fig. |
|-------------|-------------|---------------------|--------------|---------|-----------|----------------|---------|---|------|
| VK000007    | 102x60x41.5 | dist. with coupling | 5-pin, 4-way | plastic | 10-30V DC | pnp/npn        | 4 x 2A  | coupling 21-pin, pluggable                    | 1    |
| VK000008    | 127x60x41.5 | dist. with coupling | 5-pin, 6-way | plastic | 10-30V DC | pnp/npn        | 6 x 2A  | coupling 21-pin, pluggable                    | 1    |
| VK000009    | 152x60x41.5 | dist. with coupling | 5-pin, 8-way | plastic | 10-30V DC | pnp/npn        | 8 x 2A  | coupling 21-pin, pluggable                    | 1    |
| VK000020    | 152x60x43   | dist. with coupling | 5-pin, 8-way | metal   | 10-30V DC | pnp/npn/analog | 8 x 2A  | coupling 21-pin, pluggable                    | 1    |
| VK000004    | M12         | blank plug          | for distrib. | plastic |           |                |         | (2 x incl. in scope of delivery)              |      |
| VK000010    | M12         | label               | for distrib. | plastic |           |                |         | (incl. in scope of delivery)                  |      |
| AV000085    |             | cable               | for distrib. | PUR     |           |                |         | 16x0.34mm <sup>2</sup> +3x0.75mm <sup>2</sup> |      |
| VK003028    | M12         | cable connector     | central      | plastic |           |                |         | screw connection, 4-pin                       |      |
| VK003029    | M12         | cable connector     | central      | plastic |           |                |         | screw connection, 5-pin                       |      |

distributor base and separate coupling

| article-no. | design          | description           | notes              | housing | voltage       | output  | current    | connection               |
|-------------|-----------------|-----------------------|--------------------|---------|---------------|---------|------------|--------------------------|
| VK000026    | 152x60x41.5     | distrib. w/o coupling | 5-pin, 8-way       | plastic | 10 ... 30V DC | pnp/npn | 8 x 2A     | w/o coupling             |
| VK000027    | for distributor | coupling M20          | cable Ø10 ... 14mm | metal   | 10 ... 30V DC |         | max.8 x 2A | coupl. 21-pin, pluggable |
| VK000028    | for distributor | coupling M25          | cable Ø13 ... 18mm | metal   | 10 ... 30V DC |         | max.8 x 2A | coupl. 21-pin, pluggable |

If an upward cable canal is needed, the thread is already primed.

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection functions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets ipf-SENSORFLEX®" or search our website for "VK".

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

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**NOTES**

A large grid area for taking notes, consisting of a 20x30 grid of small squares. The grid is empty and occupies the majority of the page below the 'NOTES' header.