Dijkman Nederland
Elektrotechniek bv

Fabrikant en importeur van elektrotechnische componenten

Product Overview

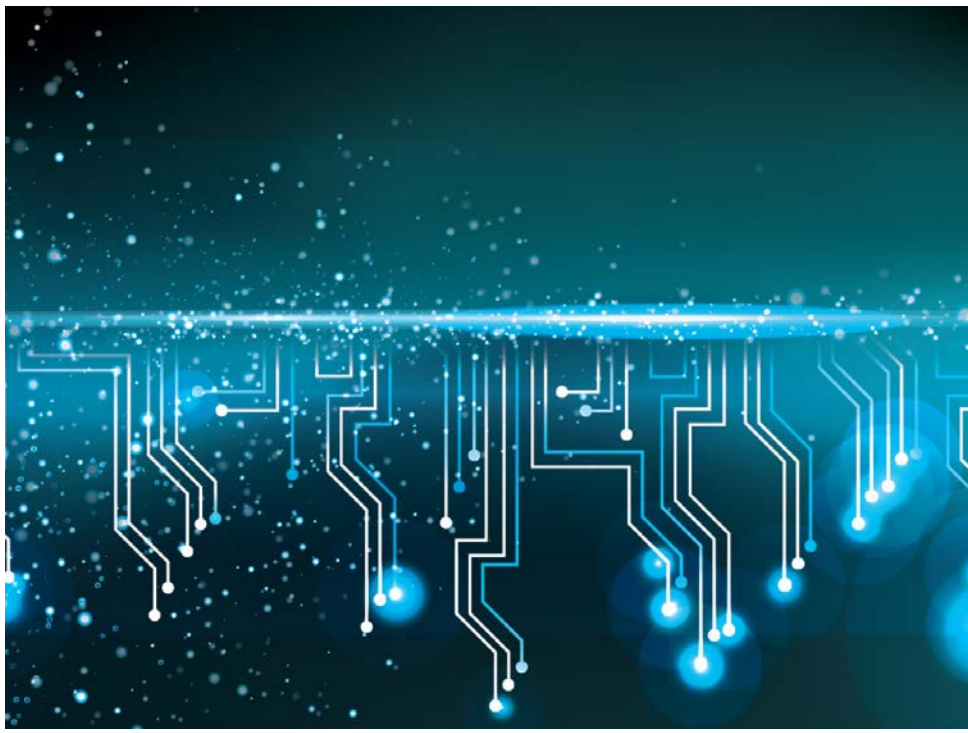
Control components

Lightning &
overvoltage protection

Analogue interface
technology

Installation contactors

Coupling and
industrial relays



relmatic

www.dijkman.com

Relmatic AG was founded in 1998 as an independent company and has since been a competent provider of devices for the automatic measuring and control technology, industrial automation and electrical industry.

We develop innovative products which we produce in our own production plant in Switzerland since 2009 as well as at three external, European production sites of state of the art plants. These are being developed further continuously and kept up with the state of the art. The flexibility in development and production allow us to respond quickly to the demands of a dynamic market. We can also carry out customised developments.

Long years of experience enable competent consulting and problem solving. We always aim to find and offer an innovative solution with our market partners.

Extensive stocks of standard products allow us to deliver incoming orders in Switzerland at short notice. The use of dispo boxes avoids heaps of waste and disposal costs for the customer and therefore makes a contribution to environmental protection. We have a warehouse in Germany for the EU zone. This avoids complicated customers clearances and their high expenses. This enables us to supply to all customers in the EU within the shortest possible time.

ENVIRONMENTALLY FRIENDLY

QUICK DELIVERY

MADE IN EU

CONTENTS

Digital coupling modules

Coupling modules are often used in building automation as well as in process control as a link between logic and load.

With the coupling modules KBD-1, KBD-2 and KBZ-2 the function of the devices to be controlled can already be checked manually before switching on the controller. This simplifies commissioning of a controller. Manual intervention can also be a great help when servicing. It enables system parts to be checked without the controller. If the controller should fail, emergency operation can be established with the manual operation and long downtimes can be avoided.

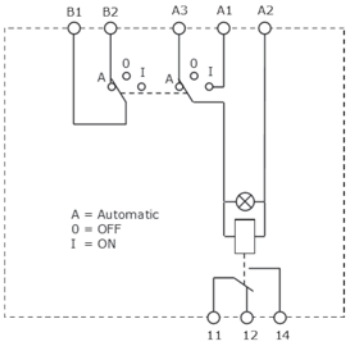
Every coupling module can be switched to automatic (AUTO) or manual mode (OFF or ON). The integrated feedback signals to the controller which mode has been set. In automatic mode the contact with feedback is closed; therefore a logic 1 results on the controller. Multiple feedbacks can be connected in series.

KBD-1

1-CHANNEL COUPLING MODULE

- 1 activation
- Changeover contact 12 A/250 V AC
- Operating voltage and activation with 24 V AC/DC
- Service switch AUTO-OFF-ON with feedback
- KBD-1/M for minus activation

Art. No.
KBD-1 // KBD-1/M

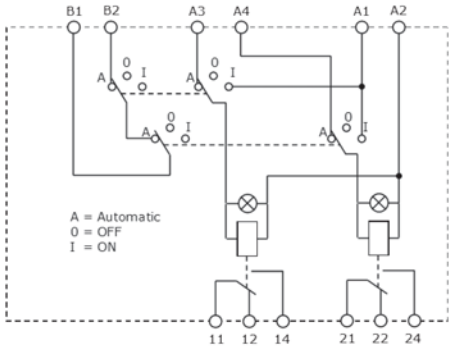


KBD-2

2-CHANNEL COUPLING MODULE

- 2 activations
- 2 changeover contacts 12 A/250 V AC
- Operating voltage and activation with 24 V AC/DC
- Service switch AUTO-OFF-ON with feedback
- KBD-2/M for minus activation

Art. No.
KBD-2 // KBD-2/M

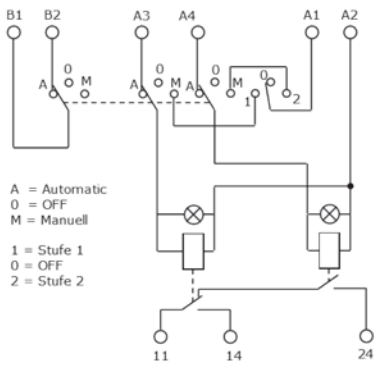


KBZ-2

2-STAGE COUPLING MODULE

- 2 locked switching stages
- 2 working contacts 16 A/250 V AC mutually locked
- Operating voltage and activation with 24 V AC/DC
- Service switch AUTO-OFF-ON with feedback

Art. No.
KBZ-2



Digital coupling modules

For high peak currents

Switching on lights can lead to very high inrush current peaks. A closing contact bounces 3 to 7 times until it has closed completely.

This causes a light arc which can melt the contact surface. Cooling of the contact can lead to micro-welding (contact sticks).

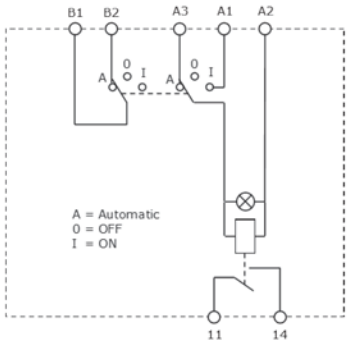
To avoid contact sticking, relays with a preceding tungsten contact are used. These can switch inrush current peaks for filament lamps of 165 A/max. 20 ms, or for fluorescent lamps of 800 A/max. 200 µs.

KBD-1/L

1-CHANNEL COUPLING MODULE

- 1 activation
- 1 normally open contact 12 A/250 V AC and inrush current peaks of 165 A/20 ms or 800 A/200 µs
- Operating voltage and activation with 24 V AC/DC
- Service switch AUTO-OFF-ON with feedback

Art. No.
KBD-1/L

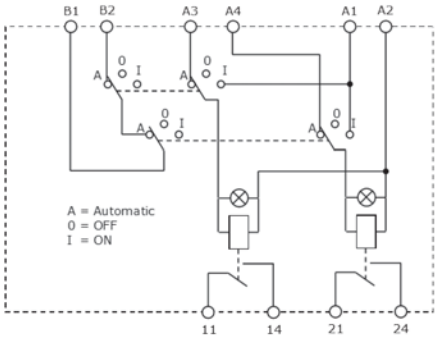


KBD-2/L

2-CHANNEL COUPLING MODULE

- 2 activations
- Normally open contacts 12 A/250 V AC and inrush current peaks of 165 A/20 ms or 800 A/200 µs
- Operating voltage and activation with 24 V AC/DC
- Service switch AUTO-OFF-ON with feedback

Art. No.
KBD-2/L

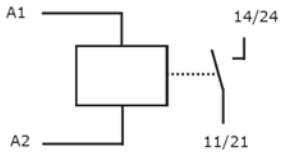


KRTW-1

COUPLING RELAY 1 NORMALLY OPEN CONTACT

- 1 activation
- 1 normally open contact 16 A/250 V AC and inrush current peaks of 165 A/20 ms or 800 A/200 µs
- Operating voltage 24 V DC
- Simple replacement of worn relays

Art. No.
KRTWS124D // KRTWT124D // KRTWC124D



Analogue coupling modules

Valves, mixing flaps or temperature values are often controlled by an analogue signal in building automation as well as in process control. If only one analogue signal is available for a digitally controllable device such as: aggregates, burners, pumps, fans, etc., these can be activated by the two-point controller ZPR-21. With this and the coupling modules KBA-1 (0 – 10 V) and KBAi-1 (0 – 20 mA) the function of the devices to be controlled can already be checked manually before switching on the controller. This simplifies commissioning of a system. Manual intervention can also be a great help when servicing. It enables system parts to be checked without the controller. If the controller should fail, emergency operation can be established with the manual operation and long downtimes can be avoided.

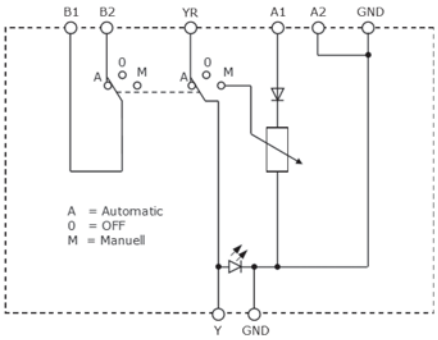
Every coupling module can be switched to automatic (AUTO) or manual mode (OFF or MAN). The integrated feedback signals to the controller which mode has been set. In automatic mode the contact with feedback is closed; therefore a logic 1 results on the controller. Multiple feedbacks can be connected in series.

KBA-1

ANALOGUE VALUE TRANSMITTERS

- Nalogue signal 0 – 10 V/0 – 20 mA in manual mode this signal is generated by the transmitter
- Operating voltage 24 V AC/DC
- Service switch AUTO-OFF-MAN with feedback

Art. No.
KBA-1 (0-10V) // KBAi-1 (0-20mA)

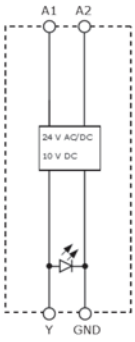


FSG-10

FROST PROTECTION SIGNAL TRANSMITTER

- Signal transmitter for frost protection
- 10 V continuous signal after activation
- Operating voltage 24 V AC/DC

Art. No.
FSG-10

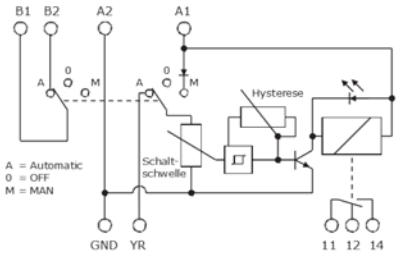


ZPR-21

TWO-POINT CONTROLLER

- Activation with an analogue signal 0 – 10 V
- Switch-on point from 1 – 10 V,
- Switch-off point adjustable from 5 – 75 %
- 1 changeover contact 8 A/250 V AC
- Operating voltage 24 V AC/DC
- Service switch AUTO-OFF-MAN with feedback

Art. No.
ZPR-21



Watchdog modules

Automatic emergency operation in case of controller failure: The watchdog modules WDR and WDA are used where no interruptions in operation are permitted. These modules start automatic emergency mode when the controller fails. Long downtimes of machine and system parts until the service technician has repaired or replaced the controller are avoided. In normal operation they work like normal analogue and digital interface modules.

This special function need not necessarily be activated by a controller but can also be performed by a clock, a switch or other system parts, opening up many application possibilities as a result.

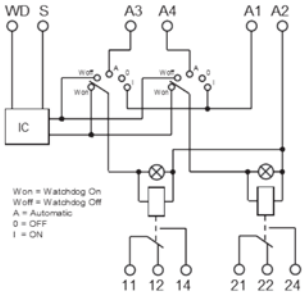
Switching over to manual mode is signalled to the controller by the feedback „S".

WDR-2

2-CHANNEL DIGITAL WATCHDOG MODULE

- 2 activations
- 2 changeover contacts 10 A/250 V AC
- Operating voltage and activation with 24 V AC/DC
- Watchdog monitoring for automatic emergency mode
- Service switch AUTO-OFF-ON with feedback

Art. No.
WDR-2

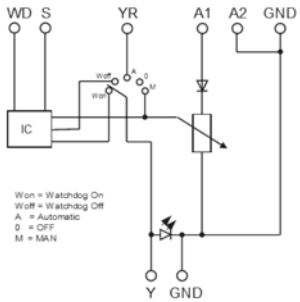


WDA-1

1-CHANNEL ANALOGUE WATCHDOG MODULE

- 1 activation
- 1 analogue output 0 – 10 V
- Operating voltage 24 V AC/DC
- Watchdog monitoring for automatic emergency mode
- Service switch AUTO-OFF-ON with feedback

Art. No.
WDA-1

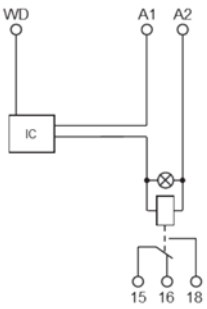


WZR-1

WATCHDOG MONITORING MODULE FOR PULSATING SIGNALS

- 1 watchdog input for pulsating signals
- Pulse frequency adjustable from 0.1 s to 10 min.
- Operating voltage and activation with 24 V AC/DC
- Changeover contact 16 A/250 V AC

Art. No.
WZR-1



Diode modules

Diode modules fulfil versatile tasks. The so-called diode gates serve for spark quenching of inductive consumers, reverse polarity protection, signal decoupling, linking components, lamp control circuit and group alarms.

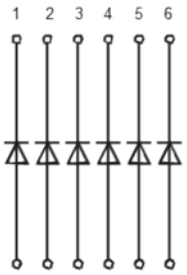
Different variants of the diode modules are produced: Module with individually wirable diodes, module with common anode or common cathode, module with group input and group output for lamp control and/or group alarm, for example.

DME-6

DIODE MODULE

- 6 individually wirable diodes
- Off-state voltage 1,000 V
- Off-state current at 25°C, < 5 µA
- Forward current max. 1 A
- Total current through all diodes ≤5 A

Art. No.
DME-6

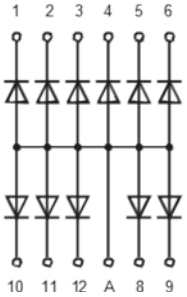


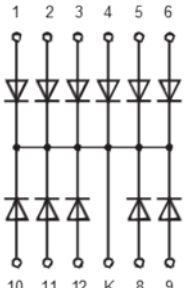
DMA-11/DMK-11

DIODE MODULE

- 11 diodes with common anode or cathode
- Off-state voltage 1,000 V
- Off-state current at 25°C, < 5 µA
- Forward current max. 1 A
- Total current through all diodes ≤ 5 A

Art. No.
DMA-11 // DMK-11



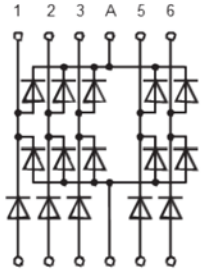


DMS-5

DIODE MODULE

- Diode gate with 5 individual inputs and outputs as well as group input and group output
- Off-state voltage 1,000 V
- Off-state current at 25°C, < 5 µA
- Forward current max. 1 A
- Total current through all diodes ≤ 5 A

Art. No.
DMS-5



Light control units

To save energy, the lights in stairways, basements and garages are only switched on when necessary. To make sure that you do not forget to switch off the light again, automatic stairway lights are used which switch off the light automatically after a set time.

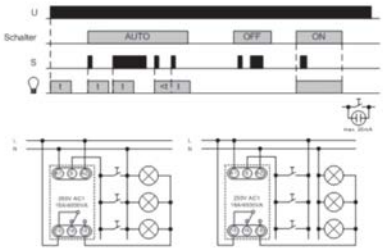
To switch the light on automatically if necessary, twilight switches are used. The lights switches on automatically in the evening and off in the morning depending on the strength of daylight. To prevent the light from being left on all night, it can be switched off at a certain time via the control input with a preceding controller, e.g. a timer.

TLA-1

AUTOMATIC STAIRWAY LIGHT

- Protection against button blocking
- Connection of glow lamps, load max. 20 mA
- Time delay 0.5 – 10 minutes
- Switch Auto-Permanent-Off
- Operating voltage 230 V AC
- 1 changeover contact 16 A/250 V

Art. No.
TLA-1

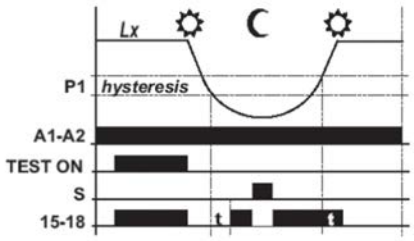


DSE-1

TWILIGHT SWITCHES

- 2 ranges, 1 – 100 Lx, 100 – 50,000 Lx
- Control input for preceding controller
- Time delay 0 – 2 minutes
- Incl. surface-mounted light sensor
- Operating voltage 230 V AC
- 1 changeover contact 16 A/250 V

Art. No.
DSE-1



Monitoring relays

Current monitoring relays are used to limit or monitor the current flow. Devices can then be switched off if they need too much current or the function of devices can be monitored.

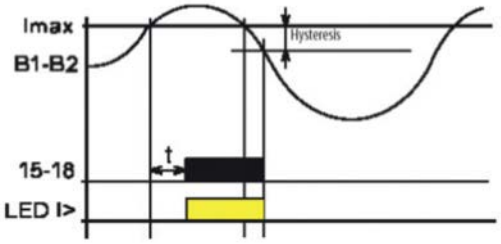
To prevent overvoltage or undervoltage on batteries, the applied voltage is monitored for overvoltage and undervoltage with a special DC voltage monitoring relay. This helps to avoid damage to rechargeable batteries.

SIW-1

CURRENT MONITORING

- 5 ranges: 1 A, 2 A, 5 A, 8 A or 16 A
- Monitoring of 10 % – 100 % of the end value
- Time delay 0 – 10 seconds
- 1 changeover contact 16 A/250 V

Art. No.
SIW-1/x

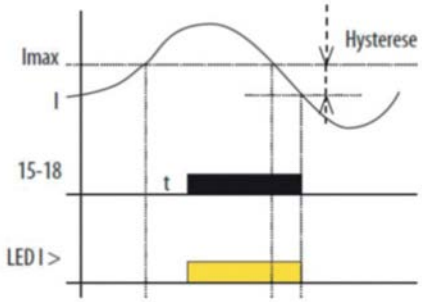


SIW-25

CURRENT MONITORING

- Current range 0.5 A – 25 A
- Integrated current converter
- Current peak < 1 s, 100 A
- Time delay 0 – 10 seconds
- 1 changeover contact 8 A/250 V

Art. No.
SIW-25

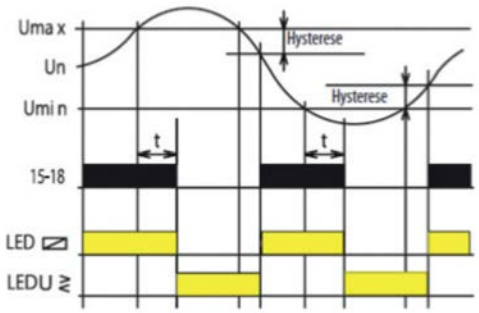


SUW-14

VOLTAGE MONITORING

- 2 monitoring ranges:
  Overvoltage of 18 – 30 V DC
  Undervoltage 30 – 99 % of the set maximum voltage
- Time delay 0 – 10 seconds
- 1 changeover contact 16 A/250 V

Art. No.
SUW-14



Monitoring relays

The individual phases are monitored in order to be able to detect faults in the three-phase mains immediately and avoid damage. Monitoring criteria are the phase sequence, failure of a phase, undervoltage and overvoltage depending on the task. Neutral wire monitoring may also be an issue. All these tasks can be monitored with the appropriate devices.

Motors must be monitored to protect them against thermal overload. PTC resistors or thermal contacts are installed in the windings for this. Their value changes when the winding temperature increases. This is evaluated by the thermistor relay, switches the motor off if it is in danger of overheating or signals this condition to the master controller.

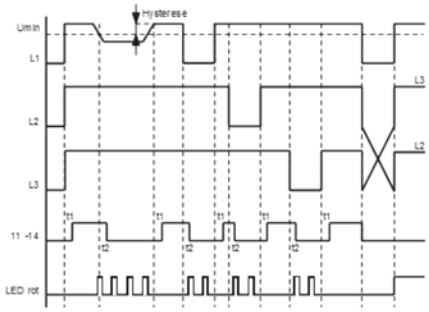
DUW-32

THREE-PHASE MONITORING

- Monitoring of the phase sequence
- Monitoring for phase failure
- With and without neutral wire monitoring
- Operating voltage 3 × 230/400 V AC
- 1 changeover contact 8 A/250 V

Art. No.

DUW-32 // DUW-32/N



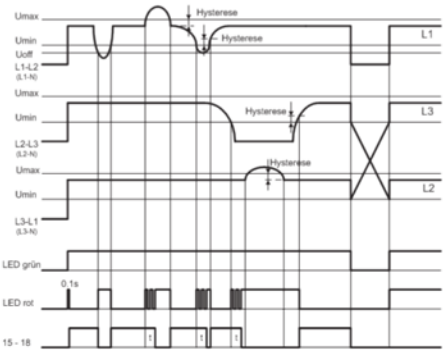
DUW-41

THREE-PHASE MONITORING

- Monitoring for over/undervoltage
- Monitoring of the phase sequence
- Monitoring for phase failure
- With and without neutral wire monitoring
- Operating voltage 3 × 230/400 V AC
- 1 changeover contact 8 A/250 V

Art. No.

DUW-41 // DUW-41/N



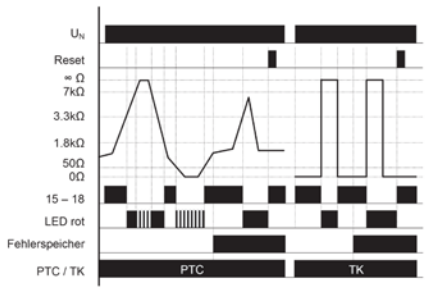
TKR-2

THERMISTOR RELAYS

- Thermal contact/PTC resistor switchable
- In PTC, sensor cable monitored for short-circuit and break
- Error memory can be switched on/off
- Operating voltage 24 – 240 V AC/DC
- 2 changeover contacts 8 A/250 V

Art. No.

TKR-2



Timer relays

A time-controlled function is used for multiple controller tasks. This is often implemented by a PLC. A PLC is often too expensive or too complicated for these tasks for smaller or simpler systems.

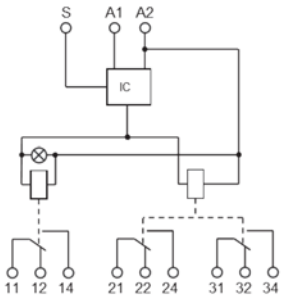
In such cases a timer relay is preferred. Many timing functions and variants from the simple single function relay to the multifunction timer relay are available. These „all-rounders" have their advantages above all in servicing and storage.

ZRM-103

MULTIFUNCTION TIMER RELAYS

- 10 timing functions
- Time range 0.1 s … 10 days
- Service circuit on/off
- 3 changeover contacts 8 A/250 V AC
- Operating voltage 12 – 240 V AC/DC

Art. No.
ZRM-103/UNI

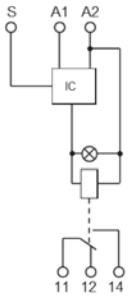


ATG-1

ASYMMETRICAL CLOCK GENERATOR

- Individually adjustable pulse and pause times
- Pulse and pause beginning
- Time range 0.1 s … 100 days
- 1 changeover contact 16 A/250 V AC
- Operating voltage 12 – 240 V AC/DC

Art. No.
ATG-1



Installation relays

The installation relays feature high switching capacity in a very small space. Three changeover contacts with 16 A/250 V load each are integrated into a 1-module housing with a width of 17.5 mm. Another version of the installation relays contains 2 separate relays with 1 changeover contact of 16 A/250 V each.

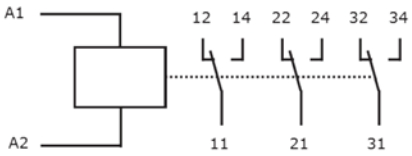
These can switch a load of 16 A in the smallest of spaces of only 8.25 mm in width. This design allows the replays to be used also in small sub-distributors under the cover with a 45 mm DIN cut-out.

ISR1-316

INSTALLATION RELAYS

- 1 activation
- 3 changeover contacts 16 A/250 V
- Operating voltage 24 V AC/DC
- Operating voltage 230 V AC

Art. No.
ISR1-316/24 // ISR1-316/230

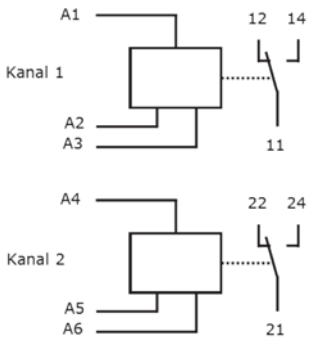


ISR2-216

INSTALLATION RELAYS

- 2 activations
- 2 changeover contacts 16 A/250 V
- Operating voltage 24 V AC/DC and 230 V AC

Art. No.
ISR2-216



Coupling relays

The coupling relay is the classic link between logic and load. Coupling relays are used when the output relays of a controller are too weak or different devices are activated with one output. All coupling relays have a LED switching status display. There is a choice of three different socket types. The classic standard socket or the version with logic separation are available with screw terminals. For screwless connection, the sockets are also available with the proven spring terminals. For screwless connection, the bases are also available with the proven spring terminals. The standard coil voltages are 24 V DC, 24 V AC and 230 V AC. Other versions are available on request.

Standard (S)

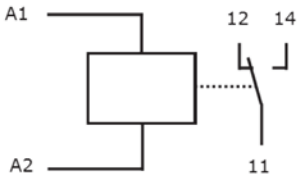
COUPLING RELAYS

WITH 1 CHANGEOVER CONTACT 12 A

- 1 changeover contact 12 A/250 V AC
- LED switching status display
- Screw Socket standard or with logic separation
- Socket with spring terminals
- Coil voltages: 24 V DC, 24V AC or 230 V AC

Art. No.

KEMIS1xxx // KEMIT1xxx // KEMIC1xxx



Logical separation (T)

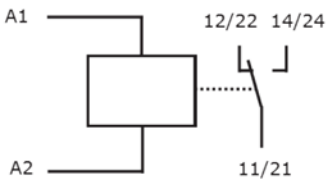
COUPLING RELAYS

WITH 1 CHANGEOVER CONTACT 16 A

- 1 changeover contact 16 A/250 V AC
- LED switching status display
- Screw Socket standard or with logic separation
- Socket with spring terminals
- Coil voltages: 24 V DC, 24 V AC or 230 V AC

Art. No.

KEZS1xxx // KEZT1xxx // KEZC1xxx



Socket with spring terminals (C)

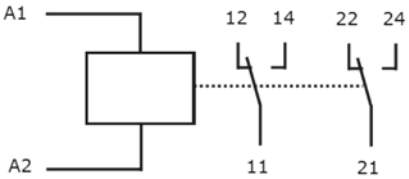
COUPLING RELAYS

WITH 2 CHANGEOVER CONTACTS 8 A

- 2 changeover contacts 8 A/250 V AC
- LED switching status display
- Screw Socket standard or with logic separation
- Socket with spring terminals
- Coil voltages: 24 V DC, 24 V AC or 230 V AC

Art. No.

KEMIS2xxx // KEMIT2xxx // KEMIC2xxx



Small industrial relays

The classic industrial relay with an 11-pole socket is being replaced increasingly by the slimmer small industrial relay. Apart from its size and the lower price it also has the advantage of having four changeover contacts. The standard version of the small industrial relays already features a mechanical and an optical (LED) switching status display as well as a protective wiring (recovery diode) in DC coils. The integrable, lockable test key enables the system to be tested very simply during commissioning or servicing.

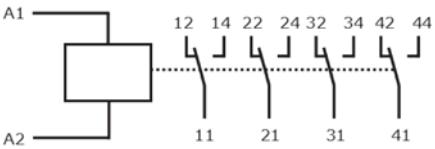
In addition to the standard screw socket, sockets with logic separation as well as socket with spring terminals can be selected. All sockets can be equipped with additional plug-in modules.

RE

SMALL INDUSTRIAL RELAYS

- 4 changeover contacts 5 A/250 V AC
- Mechanical and optical display
- Lockable test key
- Coils: 24 V DC, 24 V AC, 230 V AC

Art. No.
RE403DVTU // RE403ALTU // RE409ALTU



PYF

SCREW SOCKET

- Standard socket or socket with logic separation
- Plug-in modules
- For accommodating RE relays

Art. No.
PYF-14BE // PYF-14BE/3

PYF

SPRING TERMINAL SOCKET

- Spring terminals for screwless connection
- Logic separation
- Plug-in module
- For accommodating RE relays

Art. No.
PYF-14BE3/CC

Installation contactors

HUM-Free

The coupling relay is the classic link between logic and load. Coupling relays are used when the output relays of a controller are too weak or different devices are activated with one output. All coupling relays have a LED switching status display. There is a choice of three different socket types. The classic standard socket or the version with logic separation are available with screw terminals. For screwless connection, the sockets are also available with the proven spring terminals. For screwless connection, the bases are also available with the proven spring terminals. The standard coil voltages are 24 V DC, 24 V AC and 230 V AC. Other versions are available on request.

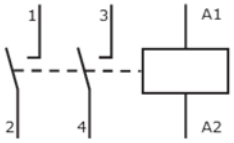
INSTALLATION CONTACTOR

WITH 2 CONTACTS

- 2 contacts, normally open and/or normally closed 20 A/230 V AC
- Mechanical switching status display
- Screw terminals 10 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 17.5 × 85 × 60 mm

Art. No.

ISU-220-xxx



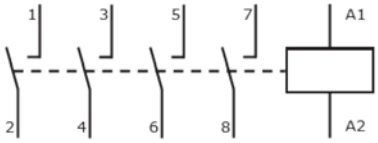
INSTALLATION CONTACTOR

WITH 4 CONTACTS

- 4 contacts, normally open and/or normally closed 25A/440V AC
- Mechanical switching status display
- Screw terminals 10 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 35 × 85 × 60 mm

Art. No.

ISU-425-xxx



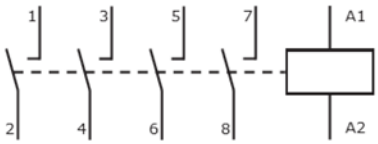
INSTALLATION CONTACTOR

WITH 4 CONTACTS

- 4 contacts, normally open and/or normally closed 40 A/440 V AC, 63 A/440 V AC
- Mechanical switching status display
- Screw terminals 25 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 53.3 × 84 × 60 mm

Art. No.

ISU-440-xxx // ISU-463-xxx



Installation contactors

HUM-Free. With manual control

The installation contactors ISM-220 and ISM-425 are additionally equipped with manual control.

This enables to check during commissioning or servicing whether the downstream device works or to prevent unwanted switching on.

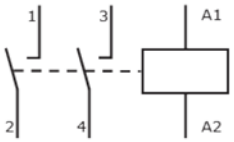
A = automatic activation
0 = control voltage always off, no activation possible
I = manual switch-on, the switch jumps automatically to the A position when the control voltage is applied

INSTALLATION CONTACTOR

WITH 2 CONTACTS

- 2 contacts, normally open and/or normally closed 20A/230V AC
- Additional manual operation
- Mechanical switching status display
- Screw terminals 10 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 17.5 × 85 × 60 mm

Art. No.
ISM-220-xxx

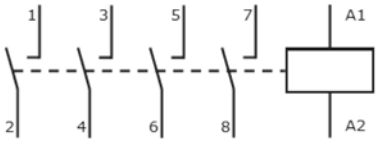


INSTALLATION CONTACTOR

WITH 4 CONTACTS

- 4 contacts, normally open and/or normally closed 25 A/440 V AC
- Additional manual operation
- Mechanical switching status display
- Screw terminals 10 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 35 × 85 × 60 mm

Art. No.
ISM-425-xxx



ACCESSORIES

- Auxiliary contact block 2 contacts, normally open and/or normally closed 6 A/230 V AC
- Sealing lid, 1, 2 or 3 module width
- Spacer

Art. No.
ISH-xx // ISP-xx // ISD-1

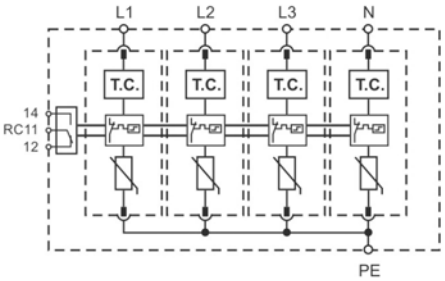
Lightning and overvoltage protection

TOV's (Temporary Overvoltages) occur increasingly on the mains. These are caused by short-circuits between 2 phases, omission of the neutral wire, earthing errors and mains fluctuations due to an increasing number of distributed feeds. These overvoltages are too low to triggers the used MOV's but heat them up so strongly that they age, burn through later and can even explode. The patented circuit in the new TOV-CONTROL overvoltage devices prevents this by reducing the current through the MOV's. In the TOV-CONTROL devices BSE (class II) an overvoltage of 440 V can be applied continuously without causing damage. In the BSG (class I+II) the continuous overvoltage threshold is at 700V.

OVERVOLTAGE PROTECTION

- Medium protection class II
- Mechanical status display
- Remote signal contact
- Max. lightning current: 40 kA per pole
- TOV protection, continuously up to 440 V

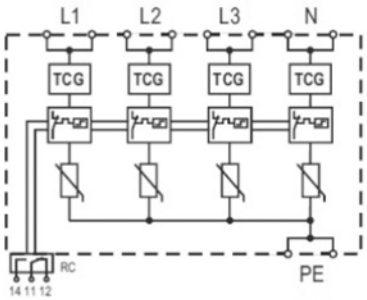
Art. No.
BSE-F xxx



LIGHTNING AND
OVERVOLTAGE PROTECTION

- Combination devices, rough and medium protection class I+II
- Mechanical status display
- Remote signal contact
- Max. lightning current: 12.5 kA per pole
- TOV protection, continuously up to 700 V
- Leakage current-free

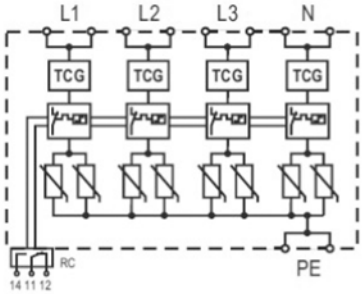
Art. No.
BSG-E50 xxx



LIGHTNING AND
OVERVOLTAGE PROTECTION

- Combination devices, rough and medium protection class I+II
- Mechanical status display
- Remote signal contact
- Max. lightning current: 25 kA per pole
- TOV protection, continuously up to 700 V
- Leakage current-free

Art. No.
BSG-E100 xxx



Lightning and overvoltage protection

Lightning discharges create very high voltages in split seconds on overhead cables and in house installations. Lightning strikes in the immediate vicinity can also cause damage due to the strong magnetic field. The heating controller is destroyed, the computer crashes and data are lost, electrical cables and apparatuses are damaged. To protect electronic devices against destruction by overvoltage, the inner lightning and overvoltage protection must be added to the lightning protection system.

Combination protection modules for rough, medium and fine protection are available in addition to the classic medium protection. The devices have a modular structure so that the protection modules can be changed quite simply without tools after an incident. These protection modules increase the availability and guarantee a trouble-free work process.

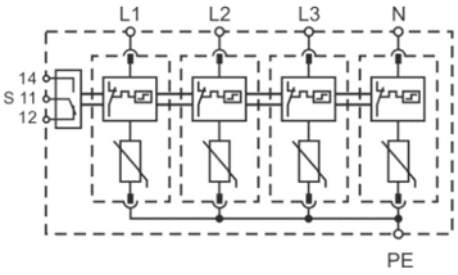
Other variants, e.g. for data technology on request.

INSTALLATION CONTACTOR

WITH 2 CONTACTS

- 2 contacts, normally open and/or normally closed
- 20A/230V AC
- Additional manual operation
- Mechanical switching status display
- Screw terminals 10 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 17.5 × 85 × 60 mm

Art. No.
ISM-220-xxx

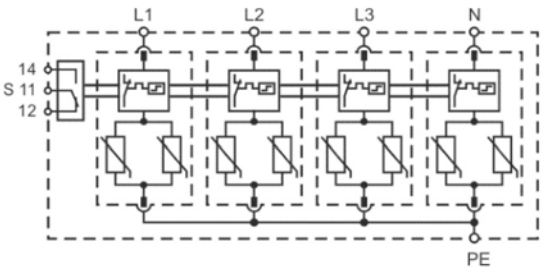


INSTALLATION CONTACTOR

WITH 4 CONTACTS

- 4 contacts, normally open and/or normally closed 25 A/440 V AC
- Additional manual operation
- Mechanical switching status display
- Screw terminals 10 mm2
- Coil voltages: 24 V AC/DC, 230 V AC/DC
- Dimensions: 35 × 85 × 60 mm

Art. No.
ISM-425-xxx



Lightning and overvoltage protection

Photovoltaic systems are particularly at risk because of their exposed location. The photovoltaic overvoltage protection devices were developed against direct and indirect lightning discharges. The devices are installed between the generators and the DC-AC converters.

The BSA-EVS 12.5 PV supply comprehensive protection against lightning voltages and overvoltages and consist of two high power varistors with a thermal disconnection device.

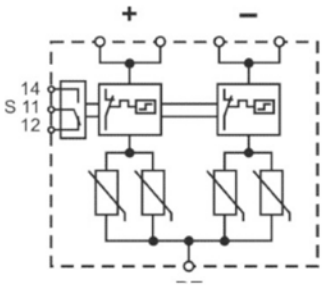
The BSA-FS 40 PV and BSE-FS 40 PV are installed in the zone transition 1-2 and are designed in accordance with IEC 62305 for induced overvoltages and should be used in connection with BSA-EVS PV

Other variants for use with wind energy plants on request.

LIGHTNING AND
OVERVOLTAGE PROTECTION

- Coarse and medium protection class I + II
- Mechanical status display
- Remote signal contact
- Max. lightning current: 12.5 kA per pole

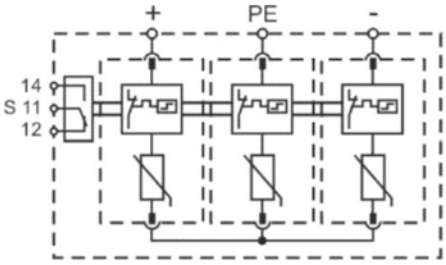
Art. No.
BSA-EVS 12.5/550 PV // BSA-EVS 12.5/1000 PV



OVERVOLTAGE PROTECTION

- Medium protection class II
- Mechanical status display
- Remote signal contact
- Max. lightning current: 40 kA per pole

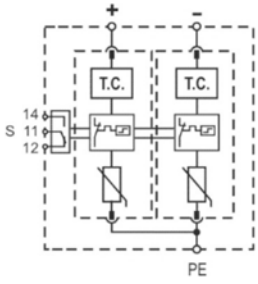
Art. No.
BSA-FS 40/550 PV // BSA-FS 40/1000 PV



OVERVOLTAGE PROTECTION

- Medium protection class II
- Mechanical status display
- Remote signal contact
- Max. lightning current: 40 kA per pole
- Continuous overvoltage-proof (TOV) 1.5 × UCPV

Art. No.
BSE-FS 40/600 PV // BSE-FS 40/1000 PV



Analogue interface technology

ON ALL RELMATIC
5 YEAR GUARANTEE
ISOLATION AMPLIFIERS

ISOLATION AMPLIFIERS
ISOLATION CONVERTERS
MEASURING TRANSMITTERS

The physical measuring variables (e.g. temperature, pressure) which must be monitored to control the production processes are converted into standard electrical signals by measuring transducers. These standard signals are often fed hundreds of metres by cables from the factory hall to the central controller in the control room. The signals are exposed to many sources of interference and couplings on the way there. To achieve optimum signal quality and for safety reasons, electronic processing and electrical isolation of the signals by isolation amplifiers must be effected.

Important factors in the automation technology are economy, system safety and availability of the components. The availability is particularly a problem because of the great number of measuring signals. Relmatic has equipped different isolation amplifiers with a calibrated signal switchover. The signals can be switched over easily by DIP switch. Subsequent readjustmentis unnecessary. The isolationamplifiers can be set locally without great effort and thus save provision and storage costs.

VERY SIMPLE SIGNAL SWITCHOVER

The input and output signals can be switched over easily with a DIP switch. Subsequent readjustment is not necessary for devices with calibrated signal switchover. This leads to maximum flexibility and minimum storage and installation costs. The devices can be used world-wide on all supply networks with the universal power supply unit for 20 … 253 V AC/DC. The versatility simplifies ordering and storage.

VERY SIMPLE HANDLING BY FIXED RANGES

All devices in the 11.2 mm small housing are immediately ready for use without setting work or readjustment. The extremely low installation depth of just 60 mm allows them to be used in low-cost standard terminal boxes like those often used for distributed measuring points. The 11.2 mm narrow row housing saves a considerable amount of space on the DIN rail. A throughswitching comb for looping through the auxiliary energy for up to 10 isolation amplifiers ensures fast, inexpensive installation.

The main emphasis in the device development is on safety and reliability. The basis for this is a special circuit technique which largely avoids inherent heating due to the extremely low power loss and thus prevents ageing of the used elements. This is reflected in extremely high reliability and long-term stability. Integrated protection components against overstressing and high limit load reserves are other measures that ensure safe system operation.

Isolators without auxiliary energy

Isolators without auxiliary energy electrically isolate 0(4) ... 20 mA standard signal circuits and transfer the measuring signal to the output with high accuracy. They therefore avoid dragging in disturbance voltages and effectively suppress interferences. The isolators require no additional voltage supply because the auxiliary energy of 2 … 3 V is gained from the measuring signal. This saves installation costs and increases the reliability.

An intelligent circuit technology and the consistent avoidance of highly integrated circuit components leads to long life and reliability. The isolators are designed as 1 or 2-channel versions. A version for safe separation at a test voltage of 4 kV AC is available for protection of maintenance personnel and the downstream devices.

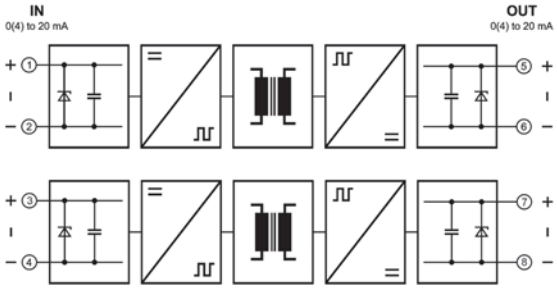
RH 18

ISOLATORS WITHOUT AUXILIARY ENERGY

- No auxiliary energy necessary
- Standard signal 0(4) … 20 mA
- 1 or 2-channel
- Compact design 11.2 mm wide

Art. No.

RH 18-1 // RH 18-2



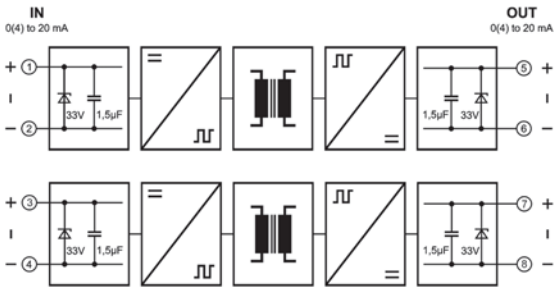
RH 1000

ISOLATORS WITHOUT AUXILIARY ENERGY

- No auxiliary energy necessary
- Standard signal 0(4) … 20 mA
- 1 or 2-channel
- Variant with safe 4 kV separation
- Compact design 12.5 mm wide

Art. No.

RH 1011 // RH 1012 // RH 1021 // RH 1022



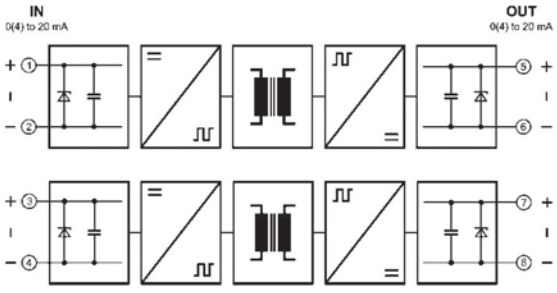
RH 11000

ISOLATORS WITHOUT AUXILIARY ENERGY

- No auxiliary energy necessary
- Standard signal 0(4) … 20 mA
- 1 or 2-channel
- Extremely narrow design 6.0 mm wide

Art. No.

RH 11010 S // RH 11020 S



Standard signal isolation amplifiers

Standard signal isolation amplifiers electrically isolate 0(4) ... 20 mA und 0 … 10 V standard signal circuits, convert and transfer the measuring signals to the output with high accuracy. They therefore avoid dragging in disturbance voltages and effectively suppress interferences. The „small" isolators have adjusted fixed ranges and can be used immediately. The „large" isolators contain a calibrated signal switchover which allows necessary local signal adaptation. The used universal power supply unit with a voltage range of 20 – 253 V AC/DC allows world-wide use on all supply networks. An intelligent circuit technology and the consistent avoidance of highly integrated circuit components leads to long life and reliability.

A version for safe separation at a test voltage of 4 kV AC is available for protection of maintenance personnel and the downstream devices. The signal to be transferred may change on long signal lines. To obtain a correct projection of the signal, the measuring line can be adjusted with zero/span in the RN 2300.

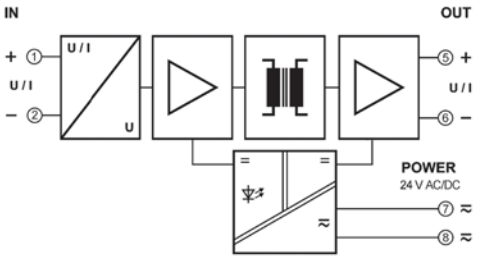
RN 28

STANDARD SIGNAL ISOLATION AMPLIFIERS

- Standard signal 0 … 10 V, 0(4) … 20 mA
- Adjusted fixed ranges
- Real 3-port isolation 2.5 kV
- Auxiliary energy 24 V AC/DC
- Compact design 11.2 mm wide

Art. No.

RN 28xx



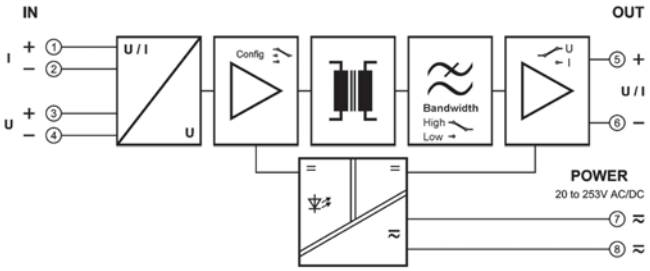
RN 2000

STANDARD SIGNAL ISOLATION AMPLIFIERS

- Standard signal 0 … 10 V, 0(4) … 20 mA
- Calibrated signal switchover or adjusted fixed ranges
- Real 3-port isolation 4.0 kV
- Auxiliary voltage 20 – 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.

RN 2000 // RN 20xx



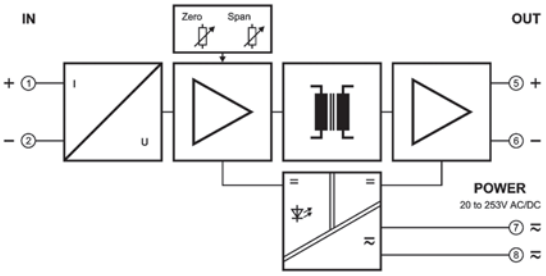
RN 2300

STANDARD SIGNAL ISOLATION AMPLIFIERS

- Standard signal 0(4) … 20 mA
- Zero/span measuring line comparison
- Real 3-port isolation 4.0 kV
- Auxiliary voltage 20 – 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.

RN 2300



Standard signal isolation amplifiers

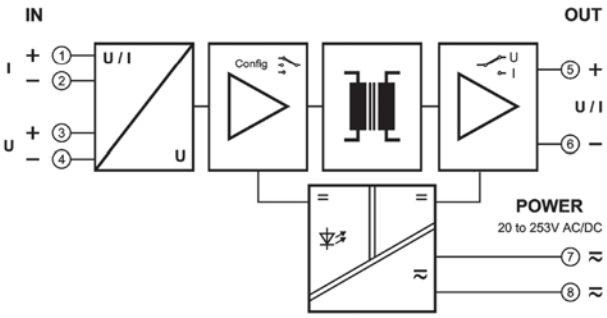
Standard signal isolation amplifiers electrically isolate 0/1 … 5 V, 0/2 … 10 V and 0/4 … 20 mA standard signal circuits, convert and transfer the measuring signals to the output with high accuracy. They therefore avoid dragging in disturbance voltages and effectively suppress interferences. An intelligent circuit technology and the consistent avoidance of highly integrated circuit components leads to long life and reliability.

RN 2400

STANDARD SIGNAL ISOLATION AMPLIFIERS

- Standard signal 0 … 10 V, 0(4) … 20 mA
- Calibrated signal switchover
- Real 3-port isolation 2.5 kV
- Auxiliary voltage 20 – 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.
RN 2400

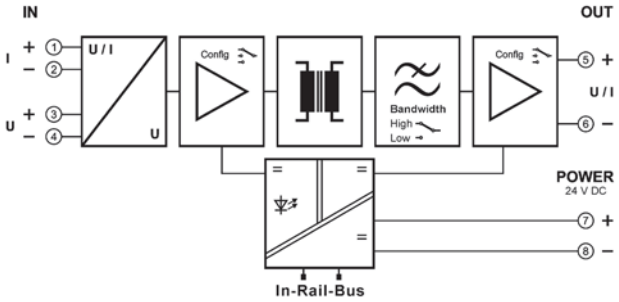


RN 25000

STANDARD SIGNAL ISOLATION AMPLIFIERS

- Standard signal 0/2 … 10 V und 0/4 … 20 mA
- Calibrated signal switchover
- Real 3-port isolation 3 kV
- Auxiliary voltage 24 V DC
- Extremely narrow design 6.2 mm wide
- In-rail bus for voltage supply

Art. No.
RN 25000 S // RN 25000 B



Standard signal splitters

If a standard signal 0/4 … 20 mA or 0/1 … 5 V or 0/2 … 10 V is required in two different places or two different signals are required even, the standard signal splitter is used. Here, the input signal is amplified at two outputs and converted if necessary. This is achieved by a real 4-port isolation with 3 kV.

The standard signal splitter contains a calibrated signal switchover which allows necessary local signal adaptation.

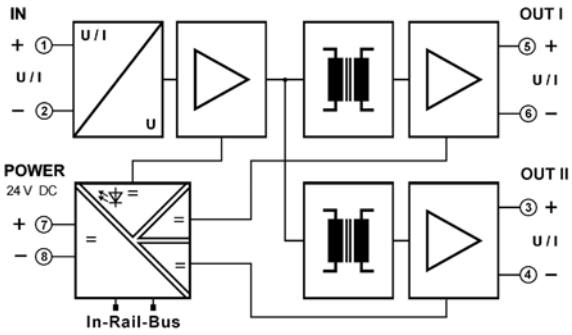
RN 21000

STANDARD SIGNAL SPLITTERS

- Standard signal 0/1 … 5 V, 0/2 … 10 V und 0/4 … 20 mA
- Calibrated signal switchover
- 1 input, 2 outputs
- Real 4-port isolation 3 kV
- Auxiliary voltage 24 V DC
- Extremely narrow design 6.2 mm wide
- In-rail bus for voltage supply

Art. No.

RN 21000 S // RN 21000 B



Potentiometers and temperature transmitters

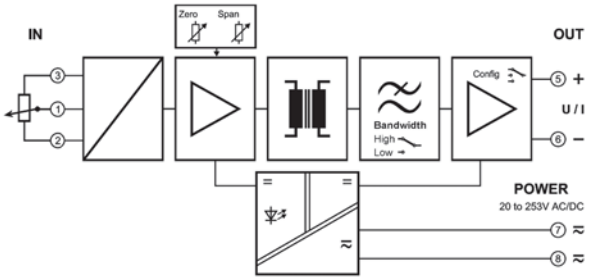
If resistance values of a potentiometer have to be processed by a controller, this often proves to be a difficult task because no such control inputs are available. With the potentiometer-transducer RR 4310, resistance values of 500 V – 100 kV can be converted into a bipolar or unipolar analogue signal of 0 … 5 V, 1 … 5 V, 0 … 10 V, 2 … 10 V ±5V, ±10 V/0 ... 10 mA, 2 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, ±10 mA, ±20 mA.
Temperature values can sometimes be processed directly by the controller. Where this is not the case, the values of a Pt100 or Pt1000 sensors can be converted by the temperature transducers RR 4700, RR 44, RR 48 and RR 49 into a standard signal 0 ... 5/10 V or 0(4) ... 20 mA.
Long sensors lines can lead to false measured values which can be minimised by the 3 or 4-wire connections.

RR 4310

POTENTIOMETER-TRANSDUCERS

- Resistance value 500 V – 100 kV
- Zero/span comparison
- Bipolar and unipolar output signals
- Real 3-port isolation 4.0 kV
- Auxiliary energy 20 ... 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.
RR 4310

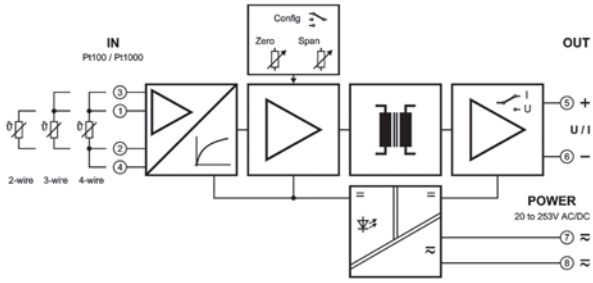


RR 4700

TEMPERATURE TRANSMITTERS

- Pt100/1000 -100°C … +600°C
- 2, 3 or 4-wire connection
- Standard signal 0 ... 5/10 V, 0/4 ... 20 mA
- Simple signal switchover
- Real 3-port isolation 2.5 kV
- Auxiliary voltage 20 – 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.
RR 4700

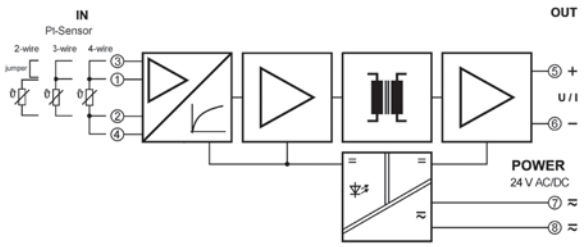


RR 44/48/49

TEMPERATURE TRANSMITTERS

- Pt100/Pt1000 -50°C … +400°C
- 2 or 3-wire connection
- RR 44 for Pt100 in 4-wire connection techn
- Standard signal 0 ... 5/10 V, 0/4 ... 20 mA
- Adjusted fixed ranges
- Real 3-port isolation 2.5 kV
- Auxiliary voltage 24 V AC/DC
- Compact design 11.2 mm wide

Art. No.
RR 44-xx // RR 48-xx // RR 49-xx



Transmitter repeater

To process the 4 … 20 mA standard signal from a 2-wire sensor, the transmitter repeater RC 58 is used. The repeater disconnector RC 52100 serves to supply and separate 2, 3 and 4-wire transmitters. It supplies the transmitter with auxiliary energy and transfers the measuring signal electrically isolated to the output with high accuracy.

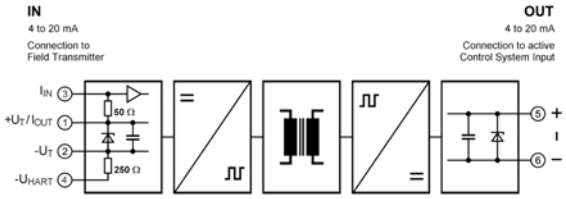
The repeater disconnector RC 52500 serves to supply and separate 2 and 3-wire SMART transmitters and active sensor signals with HART communication. It supplies the transmitter with auxiliary energy and transfers the measuring signal electrically isolated to the output with high accuracy. In addition to the analogue signal the RC 52500 also transfers data protocols for HART communication. It also enables bidirectional communication with the field device from every point of the wiring.

RC 58

TRANSMITTER REPEATER

- No auxiliary energy necessary
- Standard signal 0(4) … 20 mA
- Supply of 2-wire transducers
- Electrical isolation 2.5 kV
- Compact design 11.2 mm wide

Art. No.
RC 58

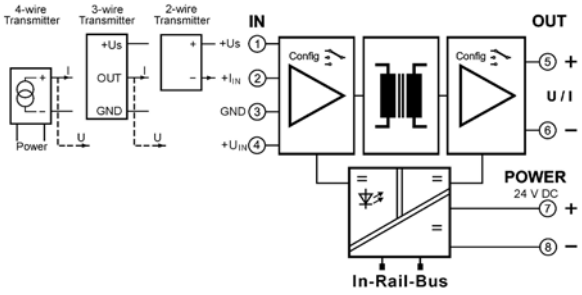


RC 52100

REPEATER POWER SUPPLY

- Supply of 2, 3 and 4-wire transmitters
- Calibrated signal switchover
- Real 3-port isolation 3 kV
- Extremely narrow design 6.2 mm wide
- In-rail bus for voltage supply

Art. No.
RC 52100 S // RC 52100 B

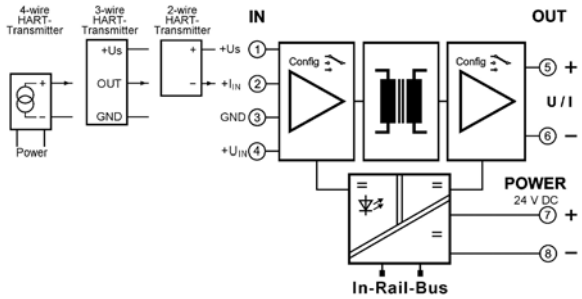


RC 52500

REPEATER POWER SUPPLY HART

- Universal operation of SMART transmitters
- Sensor signal with HART communication
- Real 3-port isolation 3 kV
- Extremely narrow design 6.2 mm wide
- In-rail bus for voltage supply

Art. No.
RC 52500 S // RC 52500 B



Universal isolation amplifiers

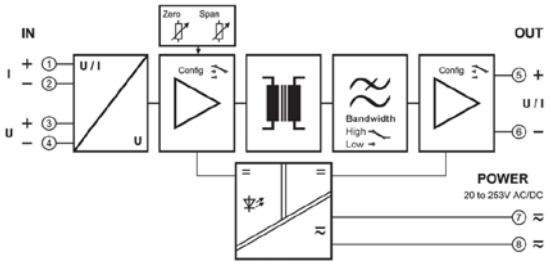
The measurement of line distances in different directions, motor currents in both directions of rotation and for improved resolution of measuring signals demands processing of bipolar measuring signals. Unipolar and bipolar industrial standard signals can be processed with the universal isolation amplifier RB 6200. The simple range switching enables 144 signal combinations. With the front zero/span potentiometer, subsequent readjustment or measuring line comparison is possible.
The universal isolation amplifier RB 68 contains adjusted fixed ranges and can therefore be used immediately. The processing (conversion/amplification) of the industrial standard signals is implemented by a real 3-port isolation with 2.5 kV or 4 kV respectively.

RB 6200

UNIVERSAL ISOLATION AMPLIFIERS

- Unipolar and bipolar industrial standard signals
- 144 signal combinations
- Zero/span measuring line comparison
- Real 3-port isolation 4.0 kV
- Auxiliary voltage 20 – 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.
RB 6200

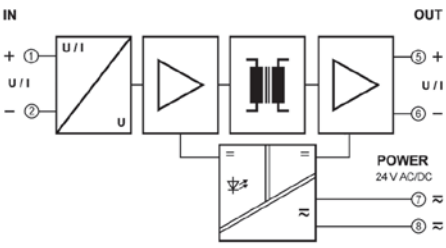


RB 68

UNIVERSAL ISOLATION AMPLIFIERS

- Unipolar and bipolar industrial standard signals
- Adjusted fixed ranges
- Real 3-port isolation 2.5 kV
- Auxiliary voltage 24 V AC/DC
- Compact design 11.2 mm wide

Art. No.
RB 68-xx

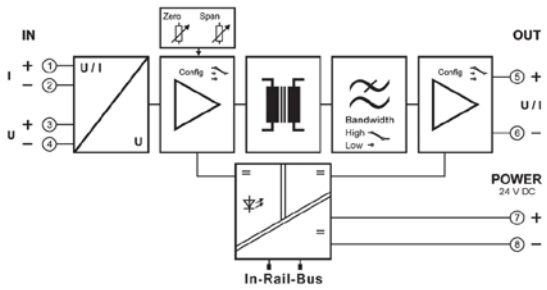


RB 64000

BIPOLAR ISOLATION AMPLIFIERS

- Unipolar and bipolar industrial standard signals, calibrated signal switchover
- Zero/span measuring line comparison
- Real 3-port isolation 3 kV
- Auxiliary voltage 24 V DC
- Extremely narrow design 6.2 mm wide
- In-rail bus for voltage supply

Art. No.
RB 64000 S // RB 64000 B



Shunt isolation amplifiers

In high voltage systems, bipolar and unipolar voltage signals in the mV range must be isolated on shunt resistors and converted into standard signals.

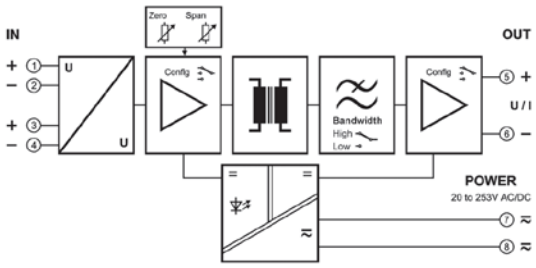
With the shunt isolation amplifiers, values of ±60 mV to ±500 mV and 0 – 60 mV to 0 – 500 mV are taken up by shunt resistors at dangerous high voltages. These signals can be converted into a bipolar or unipolar analogue signal of 0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V ±5 V, ±10 V/ 0 ... 10 mA, 2 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, ±10 mA, ±20 mA and passed to the output.

RS 7200

SHUNT ISOLATION AMPLIFIERS

- Bipolar and unipolar shunt voltages
- Zero/span comparison
- Bipolar and unipolar output signals
- Simple signal switchover
- Real 3-port isolation 4.0 kV
- Auxiliary energy 20 ... 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.
RS 7200

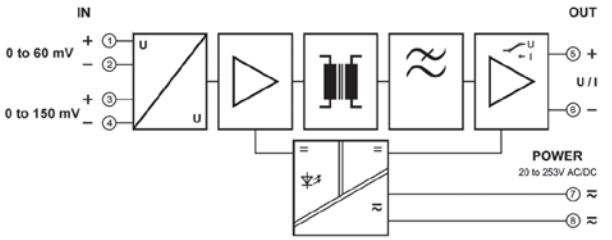


RS 7400

SHUNT ISOLATION AMPLIFIERS

- Unipolar shunt voltages
- Output signals 0 ... 10 V, 0/4 ... 20 mA
- Calibrated signal switchover
- Real 3-port isolation 2.5 kV
- Auxiliary voltage 20 – 253 V AC/DC
- Compact design 12.5 mm wide

Art. No.
RS 7400

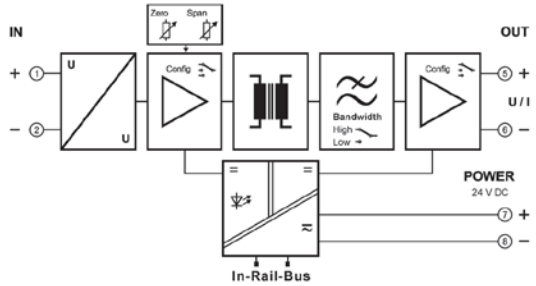


RS 75000

SHUNT ISOLATION AMPLIFIERS

- Bipolar and unipolar shunt voltages
- Zero/span comparison
- Bipolar and unipolar output signals
- Calibrated signal switchover
- Real 3-port isolation 2.5 kV
- Auxiliary energy 24 V DC
- Extremely narrow design 6.0 mm wide
- In-rail bus for voltage supply

Art. No.
RS 75000 S // RS 75000 B



Universal transmitters

The programmable universal measuring transmitter RT 45000 serves to measure industrial process signals. It converts the measured values of Pt, Ni, KTY or TC sensors as well as potentiometer, resistance and mV signals at the input into standard signals.

It can be used flexibly thanks to the simple programming by USB interface and alternatively the calibrated range switchover by DIP switch.

The front-connectable simulation function simulates a reference signal at the output with which the complete signal path can be tested and set. The measuring range limits can be taught in during operation with the teach-in function.

The transmitter can be configured by PC and the data records saved and documented with the USB programming kit. An additional voltage supply is not necessary for the programming.

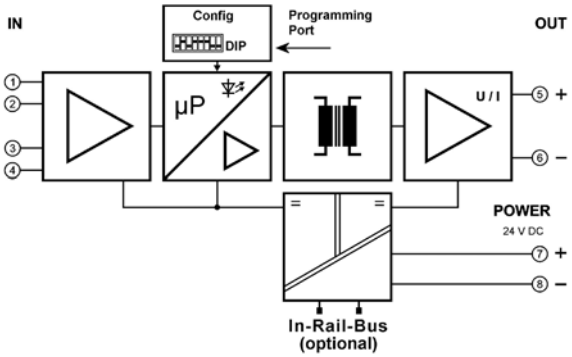
RT 45000

UNIVERSAL TRANSMITTERS

- Universal measuring input for all common industrial sensor signals
- Simple configuration by USB or DIP switches
- Real 3-port isolation 4.0 kV
- Auxiliary energy 24 V DC
- Extremely narrow design 6.2 mm wide
- In-rail bus for voltage supply

Art. No.

RT 45000 S // RT 45000 B



Dijkman Nederland
Elektrotechniek bv
Fabrikant en importeur van elektrotechnische componenten

Dijkman Elektrotechniek B.V.
Wegastraat 18, 5015 BS Tilburg
The Netherlands

T +31 (0)13 536 01 44
F +31 (0)13 542 75 32
E verkoop@dijkman.com

www.dijkman.com