INFRARED MODULATED BARRIERS
INFRARED BARRIERS
WITH ADJUSTABLE LENSES
FULL CLASS 3

POWER SUPPLY 12/24Vac-dc
MAXIMUM RANGE UNDER IN CONDITIONS 15 METRES
CONFORMS TO THE SAFETY DIRECTIVES 12978 IN CATEGORY 3
OF THE EN ISO 13849-1 AND CATEGORY 2 OF THE EN61496-2
SHIELDED LENSES - GREATER IMMUNITY TO INTERFERENCE

CPR 973 is a specifically designed range of next generation infrared security devices for the protection of carriageways and pedestrian passageways fitted with automatic opening and closing systems. The appliance is fitted with a new optical transmission system that respects an infrared opening angle of +/- 5°. The management of both the transmitter part and the receiver part is carried out by micro controller, giving the advantage of greater precision in the generation of impulses transmitted via infrared and this (once modulated according to a digital protocol that allows information transfer from the transmitter to the receiver) eliminates the risk of blinding caused by other infrared systems working on the same frequency and located in the vicinity. This is a superior class appliance that will be available in three different containers in order to solve all installation requirements.

Technical description
Infrared emission obtained by digital modulation of the carrier signal.
Reception with protocol demodulation and decoding allowing the transmitter to be recognised.
It is possible to connect up to 3 pairs of photocells and synchronize the transmission without interference; selection is carried out by means of a three-way dip-switch located on the transmitter and the receiver and by interconnecting the three transmitters using a two-wire cable (synchronism). The receiver does not require any other form of interconnection.
Digitally controlled double relays are situated on the receiver card in order to increase the safety of the appliance (at rest/alarms status control).
Jumper for selecting the output mode (potential free, N.C. or resistance 8,2kΩ contacts). Drop out delay selection via dip-switch (0, 2 seconds or 3 seconds).
High intensity LED (on the receiver) facilitating lens centring from a certain distance.
2 indicator LEDs on the receiver:
- green - when lit indicates the photoelectric cell is at rest;
- red - when lit indicates the photoelectric cell is in alarm, when flashing indicates photoelectric cell failure.
Reinforced power supply tolerating voltages up to 40Vdc or 28Vac.
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</thead>
</table>
| **PHOTOELECTRIC CELLS IN AN ALUMINIUM CASE IP66**  
Maximum range 15m  
Power supply 12/24Vac-dc  
Protection grade IP66  
Transmitter and receiver housed in a compact waterproof aluminium case. Highly resistant spray painting. Self locking adjustable lens which can be rotated horizontally through plus or minus 90° and vertically through plus or minus 30° with respect to the standard installation position.  
It is possible to connect up to 3 pairs of photocells and synchronize the transmission (multiplex system). | CDR973AX  
Dimensions 56 x 142 x 63 |
| **PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP55**  
Maximum range 15m  
Power supply 12/24Vac-dc  
Protection grade IP55  
Transmitter and receiver housed in a waterproof plastic case. Self locking adjustable lens which can be rotated horizontally through plus or minus 90° and vertically through plus or minus 30° with respect to the standard installation position.  
It is possible to connect up to 3 pairs of photocells and synchronize the transmission (multiplex system). | CDR973IX  
Dimensions 50 x 90 x 60 |
| **FLUSH-FITTING PHOTOELECTRIC CELLS**  
The kit contains a pair of flush-fitting photoelectric cells and 2 lens covers for flush-fitting photocells. | CDR973EX  
Dimensions 50 x 90 x 60 |
| **SURFACE-MOUNT PHOTOELECTRIC CELLS**  
The kit contains a pair of surface-mount photoelectric cells, 2 lens covers for surface-mount photocells and 2 fast-fitting wall brackets. |  |

The circuit board has been produced according to the requirements stipulated by the standards for electronic appliances that fall under category 3 of the EN ISO 13849-1 (update of the EN954-1). At a practical level it covers the need to guarantee greater immunity to interference in the working environment that is increasingly being polluted by disturbance. This has led to the technical evolution of both the transmitter part as well as the receiver part based on the criteria “resistance to single failure” that guarantees the maintenance of the safety level even when faced with electrical problems regarding one or more components within the device (transmitter or receiver).
**INFRARED BARRIERS**

**WITH ADJUSTABLE LENSES**

**Technical description**

- **Anti-tamper aluminium case IP66 CDR842A - CDR852A**
- **Shockproof case IP55 CDR841 - CDR851**
- Self locking adjustable lens which can be rotated horizontally through plus or minus 90° (± 45° for the CDR841) and vertically through plus or minus 30° with respect to the standard installation position.
- These adjustments permit lateral fitting and installations where the transmitter and receiver are at different heights.
- Double-relay with serial exchange on the receivers as requested by the standards regarding protection against accidents for motorized gates and doors.
- 2 indicator LEDs:
  - red - indicating that the transmitter is receiving power;
  - red - (photocells out of alignment or the beam is interrupted) in the receiver.
- Test point (for fine tuning) on the receiver.
- Sensitivity adjustment trimmer on models CDR851 - CDR852A.
- Anti-tamper function on model CDR851T.
- Delayed relay - 5s not adjustable on model CDR851R.

**Modulated infrared barrier consisting of a transmitter and a receiver.**

It constitutes an efficient safety system for the protection of passageways or spaces which are equipped with automatic doors or gates.

A shockproof designer case, pleasing on the eye, encloses innovative technical solutions which make the system extremely reliable under all working conditions.

The vast range of available models meets all possible system requirements.
PHOTOELECTRIC CELLS IN AN ALUMINIUM CASE IP66
Maximum range 15m - 60m
Power supply 12/24Vac-dc
Protection grade IP66
Transmitter and receiver housed in a compact waterproof aluminium case. Highly resistant spray painting.
Double-relay with serial exchange.
Sensitivity adjustment trimmer located on the receiver (only CDR852A).

PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP55
Maximum range 15m - 60m
Power supply 12/24Vac-dc
Protection grade IP55
Transmitter and receiver housed in a waterproof plastic case.
Double-relay with serial exchange.
Sensitivity adjustment trimmer located on the receiver (only CDR851).

FLUSH-FITTING PHOTOELECTRIC CELLS, RANGE 15m
The kit contains a pair of flush-fitting photoelectric cells and 2 lens covers for flush-fitting photocells.

SURFACE-MOUNT PHOTOELECTRIC CELLS, RANGE MAX. 15m

SURFACE-MOUNT PHOTOELECTRIC CELLS, RANGE MAX. 60m
Anti-tamper version.

SURFACE-MOUNT PHOTOELECTRIC CELLS, RANGE MAX. 60m
Delayed version - 5s not adjustable

The kit contains a pair of surface-mount photoelectric cells, 2 lens covers for surface-mount photocells and 2 fast-fitting wall brackets.
PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP55
Maximum range 10m
Power supply 12/24Vac-dc
Protection grade IP55
Transmitter and receiver housed in waterproof cases.
Self-locking adjustable lenses which can be rotated horizontally through plus or minus 90° and vertically through plus or minus 30° with respect to the standard installation position.
It is possible to connect up to 3 pairs of photocells and synchronize the transmission (multiplex system).
Double relays on the receiver with digital control increase the security and safety level of the output part (the part that furnishes the at rest/alarm signal). Jumper for selecting the output contact mode (potential free or resistance 8, 2kΩ contacts).

SURFACE-MOUNT PHOTOELECTRIC CELLS, RANGE 10m

PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP44
Maximum range 25m
Power supply 12/24Vac-dc
Protection grade IP44
Photoelectric cells that are easy and rapid to install, they are fitted with horizontally adjustable lenses through 180°, permitting greater installation flexibility.
The auto-centering lenses also allow slight vertical corrections to be made.
Automatic synchronism eliminates disturbance between two pairs of photoelectric cells.

SURFACE-MOUNT PHOTOELECTRIC CELLS, RANGE 25m

PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP44
Maximum range 25m
Power supply 24Vac-dc
Protection grade IP44
Programmable infrared photoelectric cells. Ideal for complex installations with up to 8 pairs of photocells thanks to the synchronism system. They are fitted with horizontally adjustable lenses through 180°, permitting greater installation flexibility and the auto-centering lenses also allow slight vertical corrections to be made.
The devices can be powered with 24 Vac or Vdc without reference to the polarity.

SURFACE-MOUNT PHOTOELECTRIC CELLS, RANGE 25m
PROTECTIVE SUPPORT
Protective support in cast aluminium for the VEDO photoelectric cells.
Lots of 2 pcs.

FASTENING BASE
Wall fastening base for the VEDO photoelectric cells. Cover when installing over pre-existing holes. Lots of 2 pcs.

PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP44
Maximum range 25m
Power supply 12/24Vac-dc
Protection grade IP44
The FT201 are surface mount photocells that allows the internal part of the to be inclined through ± 5° both horizontally and vertically for precise alignment.
The photocells are supplied with 2 NC relays with contact in series. An NO contact is also available on the terminal board.
The FT201 photocells are fitted with a system that is able to keep two pairs of photoelectric cells synchronised.

SURFACE-MOUNT PHOTOELECTRIC CELL, RANGE 25m

PHOTOELECTRIC CELLS IN A SHOCKPROOF CASE IP44
Maximum range 25m
Power supply 12/24Vac-dc
Protection grade IP44
The ILB SINCRO are flush-fitting photoelectric cells that allows the internal part of the to be inclined through ± 5° both horizontally and vertically for precise alignment.
The photocells are supplied with 2 NC relays with contact in series. An NO contact is also available on the terminal board.
The ILB SINCRO photocells are fitted with a system that is able to keep two pairs of photoelectric cells synchronised.

FLUSH-FITTING PHOTOELECTRIC CELLS, RANGE 25m
HYBRID INFRARED BARRIERS
WITH ADJUSTABLE LENSES

RECEIVER POWER SUPPLY 12/24Vac-dc
PROJECTOR POWER SUPPLY 3V WITH A LITHIUM BATTERY
MAXIMUM RANGE 10m
PROTECTION GRADE IP55

CDRX12 is a next generation infrared safety system, particularly suited to the protection of passageways (traffic and pedestrian) that are fitted with automatic opening and closing systems. The electronic circuit respects the most up to date standards and regulations and conforms to the standard 3 of the UNI EN 13849-1 (update of the EN954-1). It is possible to connect up to 3 pairs of photocells and synchronise the transmission (multiplex system).

The necessity of guaranteeing greater ambient noise immunity has led to the evolution of both the transmitter and receiver cards. The system is based on the criteria “resistance to single failure” that guarantees the maintenance of safety in case of electrical problems.

The receiver should be installed close to the electronic programmer and wired up drawing its 12/24V power supply directly from the programmer while the projector can be installed on any surface and doesn’t require wiring. Power is supplied by a solar panel when light is present and by a 3V lithium battery when insufficient light is available. The batteries lifespan can be optimised by setting the energy saving function and varying the cut-in time and the installation distance between the two photoelectric cells.

Technical description

Infrared transmission by means of digital modulation of the carrier signal.

Reception via demodulation and decoding of the protocol allowing the transmitter to be identified.

Self locking adjustable lens which can be rotated horizontally through plus or minus 90° and vertically through plus or minus 30° with respect to the standard installation position.

Double relays on the receiver with digital control increase the security and safety level of the output part (the part that furnishes the at rest/alarm signal).

Selection of the output contact mode (potential free or resistance 8, 2kΩ contacts).

Differentiated signal LEDS on the receiver indicate the “correct function” status by flashing briefly (every minute) or the “alarm” status when they remain constantly lit.

Pre-amplified receiver lens.

Reinforced power supply allowing voltages up to 40Vdc or 28Vac.

Overall dimensions 60 x 125 x 41

Maximum range 10m.
INFRARED BARRIERS
WITH FIXED POSITION LENSES

POWER SUPPLY 12/24Vac-dc
MAXIMUM RANGE 10 Metres
PROTECTION GRADE IP54
OPERATING TEMPERATURE RANGE -10…+55 °C

The infrared barrier constitutes an efficient safety system for the protection of passageways or spaces which are equipped with automatic door or gate systems, and for the detection and control of general passageways, whether carriageway or pedestrian, situated inside or outside buildings.

Technical description
The projector and receiver are housed in a compact, shockproof plastic casing. The casing is designed to be surface-mounted on walls. The ease of installation is complemented by the rapid adjustment time: centring is carried out, without having to loosen or fasten any screws. Just align the devices on the same axis.

The system of diodes (sender - receiver), fitted with a constraint guide for the infrared beam remains in a fixed position.
Base in thermoplastic rubber.
Lens cover with holding gasket.
Double-relay with serial exchange as required by the local standards and regulations in force.
Protection grade IP54
Fireproofing grade V0.
Overall dimensions 65 x 92 x 22.

PAIR OF SURFACE-MOUNT PHOTOELECTRIC CELLS RANGE 10m
HOLE COVERING BASE Ø60mm
INFRARED BARRIERS
WITH MINUTE OPTICAL SENSORS

POWER SUPPLY 12/24Vac-dc
RANGE FROM 1 TO 15 METRES
PROTECTION GRADE (SENSORS) IP55
CONFORMS TO THE SAFETY DIRECTIVES 12978 IN CATEGORY 3 DELLA
EN13849-1 AND TYPE 2 OF THE EN61496-2

CDR 892C3 Dual-beam multiplex infrared barrier.
FTR 893C3 Single-beam infrared barrier.
CDR 893 Single-beam infrared barrier mounted on a rail guide DIN46277.

Suitable for the protection of passageways or spaces which are equipped with automatic installations such as lifts and automatic doors or where you wish to detect or count the passage of people or things while using the least possible space.

The infrared barriers with mini sensors are ideal for installations that need to be discreet but at the same time require the passageway to be safely and reliably protected.

The electronic circuit respects the most up to date standards and regulations and conforms to the standard 3 of the EN 13849-1 (update of the EN954-1).

The necessity of guaranteeing greater ambient noise immunity has led to the evolution of both the transmitter and receiver cards. The system is based on the criteria "resistance to single failure" that guarantees the maintenance of safety in case of electrical problems.

The management of both the transmitter part as well as the receiver part is carried out by means of a microcontroller, giving the advantage of greater precision when generating the impulses transmitted via infrared that are modulated using a digital protocol thus eliminating the risk of blackout spots.

Technical description

Infrared transmission by means of digital modulation of the carrier signal.
Possibility to adjust the power of the projector by setting a jumper to one of the three available levels depending on the range that needs to be covered.
Double relays on the receiver with digital control increase the security and safety level of the output part (the part that furnishes the at rest/alarm signal).
Jumper for selecting the output contact mode (potential free, N.C. or resistance 8,2kΩ contacts).
Jumper for selecting the number of active beams (only in the dual beam model).
## PRODUCT DESCRIPTION

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<tr>
<th>Product Type</th>
<th>Description</th>
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<th>Power Supply</th>
<th>Range</th>
<th>Cables</th>
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<td><strong>DUAL-BEAM MULTIPLEX INFRARED BARRIER</strong></td>
<td>Overall dimensions 90 x 50 x 20.</td>
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</tr>
<tr>
<td><strong>DOUBLE-RELAY PHOTEOELECTRIC CELLS</strong></td>
<td>Power supply 12/24Vac-dc.</td>
<td>Range: 15m indoors - 10m outdoors.</td>
<td>Transmitter cable 5 metres - Receiver cable 3 metres.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>CDR892C3</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>DOUBLE-RELAY PHOTEOELECTRIC CELLS</strong></td>
<td>Power supply 12/24Vac-dc.</td>
<td>Range: 15m indoors - 10m outdoors.</td>
<td>Transmitter cable 10 metres - Receiver cable 7 metres.</td>
<td></td>
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</tr>
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<td></td>
<td></td>
<td><strong>CDR892C3-1</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>DOUBLE-RELAY PHOTEOELECTRIC CELLS</strong></td>
<td>Power supply 12/24Vac-dc.</td>
<td>Range: 15m indoors - 10m outdoors.</td>
<td>Transmitter cable 15 metres - Receiver cable 10 metres.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>CDR892C3-2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SINGLE BEAM DOUBLE-RELAY PHOTEOELECTRIC CELLS</strong></td>
<td>Overall dimensions 90 x 50 x 20.</td>
<td>Power supply 12/24Vac-dc.</td>
<td>Range: 2,5m indoors.</td>
<td>Transmitter cable 4 metres - Receiver cable 4 metres.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>FTR893C3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SINGLE BEAM SINGLE-RELAY PHOTEOELECTRIC CELLS</strong></td>
<td>with a socket for mounting on a rail guide DIN46277. Overall dimensions 60 x 45 x 117.</td>
<td>Power supply 10…24Vac-dc.</td>
<td>Range: 4m indoors - 2m outdoors.</td>
<td>Transmitter cable 3 metres - Receiver cable 3 metres.</td>
<td><strong>CDR893</strong></td>
</tr>
</tbody>
</table>

The circuit board has been produced according to the requirements stipulated by the standards for electronic appliances that fall under category 3 of the EN ISO 13849-1 (update of the EN954-1). At a practical level it covers the need to guarantee greater immunity to interference in the working environment that is increasingly being polluted by disturbance. This has led to the technical evolution of both the transmitter part as well as the receiver part based on the criteria “resistance to single failure” that guarantees the maintenance of the safety level even when faced with electrical problems regarding one or more components within the device (transmitter or receiver).
CDR REFLEX is a system made up of a single photoelectric unit with an inbuilt transmitter and receiver and a passive retro-reflector disc. The photoelectric cell with reflector disc allows the installer to save installation time and to avoid unnecessary brickwork with respect to traditional systems with separate transmitters and receivers.

A polarization filter makes the receiver lens immune to unwanted light disturbance.

It constitutes an efficient safety system for the protection of passageways or spaces which are equipped with automatic doors or gates.

A shockproof designer case, pleasing on the eye, encloses innovative technical solutions which make the system extremely reliable under all working conditions.

**Technical description**

Shockproof case IP55

Self-locking adjustable lens which can be rotated horizontally and vertically through plus or minus 10° with respect to the standard installation position.

These adjustments permit lateral fitting and installations where the photoelectric cell and retro-reflector disc are at different heights.

Selection of the relay output contact mode N.C.-N.O. or 8.2kΩ via jumpers.

Led signal strength indicator facilitates lens centering.

Test function:
- when wired to a suitable electronic programmer, this function allows the continuous control of the presence of the infrared signal thus increasing the safety and security level of the installation.
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<tr>
<th>Product code</th>
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<th>Relay characteristics / functions</th>
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<tr>
<td>CDR973AX</td>
<td>√</td>
<td>15</td>
<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>3 2 N.C./8,2KΩ aluminium box</td>
</tr>
<tr>
<td>CDR973IX</td>
<td>√</td>
<td>15</td>
<td>flush fitting</td>
<td>± 45 ± 30°</td>
<td>3 2 N.C./8,2KΩ</td>
</tr>
<tr>
<td>CDR973EX</td>
<td>√</td>
<td>15</td>
<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>3 2 N.C./8,2KΩ</td>
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<tr>
<td>CDR842A</td>
<td>-</td>
<td>15</td>
<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>- 2 N.O. + N.C. aluminium box</td>
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<tr>
<td>CDR852A</td>
<td>-</td>
<td>60</td>
<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>- 2 N.O. + N.C.</td>
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<td>CDR841100</td>
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<td>± 45 ± 30°</td>
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<tr>
<td>CDR841E00</td>
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<td>surface mounted</td>
<td>± 90 ± 30°</td>
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<tr>
<td>CDR851</td>
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<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>- 2 N.O. + N.C.</td>
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<td>CDR851T</td>
<td>-</td>
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<tr>
<td>CDR851R</td>
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<td>60</td>
<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>- 2 N.O. + N.C. delayed relay 5s</td>
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<td>CDR999</td>
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<td>± 90 ± 30°</td>
<td>3 2 N.C./8,2KΩ</td>
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<td>VED0180</td>
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<td>25</td>
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<td>± 90 fixed position</td>
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<td>VED0180PRO</td>
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<td>surface mounted</td>
<td>± 90 fixed position</td>
<td>8 2 N.C. /N.O.</td>
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<td>FT201SINCRO</td>
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<td>± 5 ± 5</td>
<td>2 2 N.C. /N.O.</td>
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<tr>
<td>ILBSINCRO</td>
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<td>± 5 ± 5</td>
<td>2 2 N.C. /N.O.</td>
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<td>CDRX12</td>
<td>√</td>
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<td>surface mounted</td>
<td>± 90 ± 30°</td>
<td>- 2 N.O./8,2KΩ battery + solar powered transmitter</td>
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<td>CDR861</td>
<td>-</td>
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<td>surface mounted</td>
<td>fixed position</td>
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<tr>
<td>CDR892C3</td>
<td>√</td>
<td>10</td>
<td>flush fitting sensors</td>
<td>2 pairs fixed position</td>
<td>- 2 N.C./8,2KΩ trans. cable: 5m receiv. cable: 3m</td>
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<td>CDR892C3-1</td>
<td>√</td>
<td>10</td>
<td>flush fitting sensors</td>
<td>2 pairs fixed position</td>
<td>- 2 N.C./8,2KΩ trans. cable: 10m receiv. cable: 7m</td>
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<tr>
<td>CDR892C3-2</td>
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<td>flush fitting sensors</td>
<td>2 pairs fixed position</td>
<td>- 2 N.C./8,2KΩ trans. cable: 15m receiv. cable: 10m</td>
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<tr>
<td>FTR892C3</td>
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<td>2,5</td>
<td>flush fitting sensors</td>
<td>fixed position</td>
<td>fixed position</td>
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<tr>
<td>CDR893</td>
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<td>flush fitting sensors</td>
<td>fixed position</td>
<td>fixed position</td>
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<tr>
<td>CDR REFLEX</td>
<td>-</td>
<td>10</td>
<td>surface mounted</td>
<td>± 10° ± 10°</td>
<td>- 2 N.C./N.O./8,2KΩ passive retro reflector disc</td>
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</table>