



## Hour without preselection - LCD 24 x 48 - CTR24 CTR24 non-backlit model Part number 87622170



- Display : 8-digit LCD, height 8 mm
- Built-in module for voltage inputs 10 →260 VAC/DC (2224-2324)
- 4 timing ranges : 99,999.99 hrs - 99,999.59 hrs - 999,999.9 s - 9,999 hrs 59 min 59 s
- Powered by a lithium battery, service life 8 years
- Reset on panel or external with inhibition option
- Backlit model (2323-2333-2324)
- Accessories for 50 x 25 mm cut-out

### Part numbers

|          | Type                    | Type | Functions                   |
|----------|-------------------------|------|-----------------------------|
| 87622170 | CTR24 non-backlit model | 2224 | Hour counter, voltage input |

### Specifications

#### Physical details and protection

|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Consumption                                       | Backlighting : 24 VDC± 20 % 50 mA     |
| Connection by 8 screw terminals at rear of casing | ■                                     |
| Connection capacity                               | 1,5 mm <sup>2</sup>                   |
| Fixed using bracket                               | ■                                     |
| Degree of protection front face                   | IP 65                                 |
| Temperature limits use (°C)                       | -10 →+60                              |
| Temperature limits stored (°C)                    | -20 →+70                              |
| Breakdown voltage                                 | EN 610110-1 : 2000 V / 50 Hz / 1 min. |
| Conformity to standards                           | EN 61000-6-2 - EN 55011 class B       |
| Altitude                                          | 2000 m                                |
| Certifications                                    | UL - cULus (pending) - CE             |
| Weight (g)                                        | 50                                    |

#### Operating characteristics

|                                                 |                                                                                |
|-------------------------------------------------|--------------------------------------------------------------------------------|
| Function                                        | Hour counter                                                                   |
| Display                                         | 8-digit LCD                                                                    |
| Height digits (mm)                              | 8                                                                              |
| Time ranges                                     | 0 →99 999.99 h<br>0 →99 999.59 h<br>0 →9 999 999.9 s<br>0 →9 999 h 59 min 59 s |
| Time base : Crystal controlled (Accuracy ± 100) | ■                                                                              |

#### Input 2223-2323

|                  |                                       |
|------------------|---------------------------------------|
| Start/stop input | by PNP or dry contact (terminals 2-6) |
| Low level        | 0 →0,7 VDC                            |
| High level       | 4 →30 VDC PNP                         |
| Min time closed  | > 100 ms                              |
| Input impedance  | 100 kΩ PNP                            |

#### Input 2233-2333

|                     |                                       |
|---------------------|---------------------------------------|
| Start/stop input    | by PNP or dry contact (terminals 2-6) |
| Low level           | 0 →0,7 VDC                            |
| High level          | 3 →30 VDC                             |
| Minimum time closed | > 100 ms                              |
| Input impedance     | 1 MΩ                                  |

#### Reset to zero - External 2223-2323 & 2233-2333

|                                                     |       |
|-----------------------------------------------------|-------|
| Volt-free contact or open collector (terminals 3-6) | ■     |
| Minimum time closed                                 | 50 ms |

#### Input 2224-2324

|                                                         |                |
|---------------------------------------------------------|----------------|
| One start/stop input Two voltage levels (terminals 3-6) | ■              |
| Voltage - Terminals 1-2                                 | 10 →260 VAC/DC |
| Input impedance                                         | 160 kΩ         |
| Minimum pulse time DC                                   | 100 ms         |
| Minimum pulse time AC                                   | 100 ms         |
| Low level                                               | 0 →2 VAC/DC    |
| High level                                              | 10 →260 VAC/DC |

#### Reset to zero - External 2224-2324

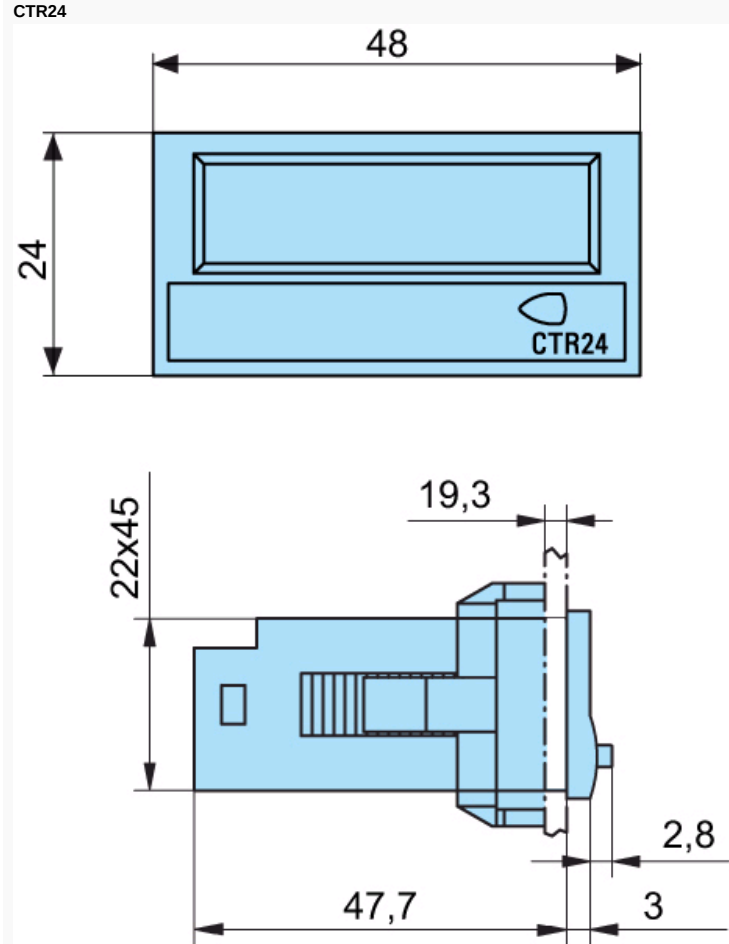
|                         |                |
|-------------------------|----------------|
| Voltage - Terminals 2-3 | ■              |
| Minimum pulse time      | 16 ms          |
| Low level               | 0 →2 VAC/DC    |
| High level              | 10 →260 VAC/DC |

|                                  |                                                                             |
|----------------------------------|-----------------------------------------------------------------------------|
| Reset to zero - Panel            |                                                                             |
| Reset via                        | Inhibited : Terminals 4-6 not connected<br>Active : Terminals 4-6 connected |
| Supply                           |                                                                             |
| 1 lithium battery - Life (years) | 8                                                                           |

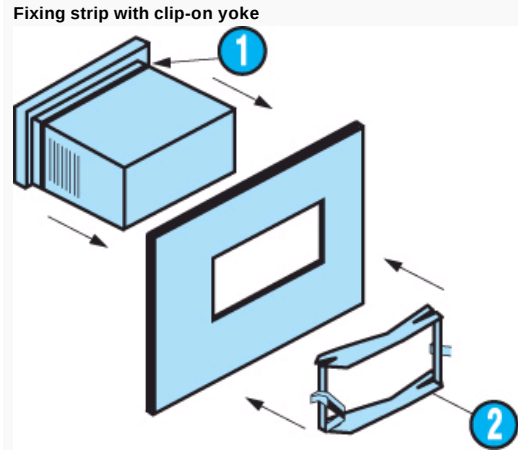
Accessories

| Description                                        | Code     |
|----------------------------------------------------|----------|
| Adaptor for 50 x 25 mm cut-out - Fixed with screws | 26546843 |
| Adaptor for 50 x 25 mm cut-out - Fixed with clips  | 26546844 |
| DIN rail adaptor                                   | 26546840 |
| Clip-fixing kit (supplied with the product)        | 26546848 |

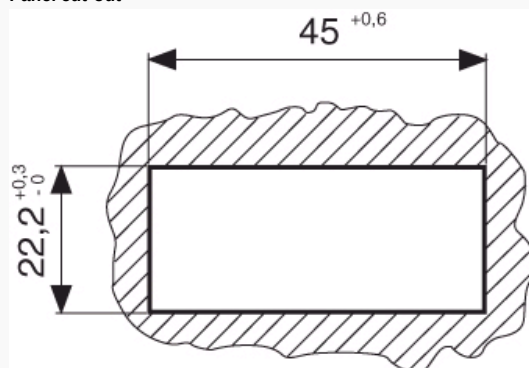
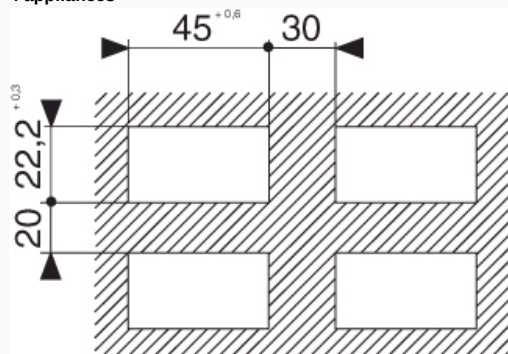
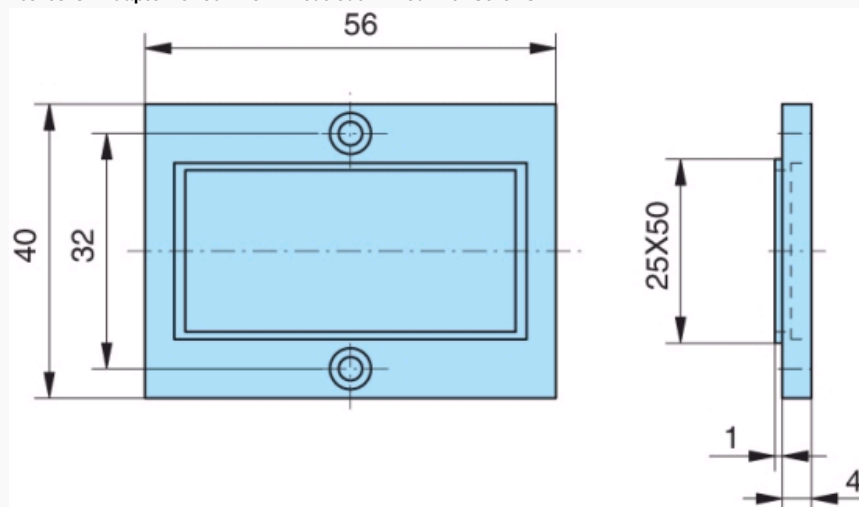
Dimensions (mm)

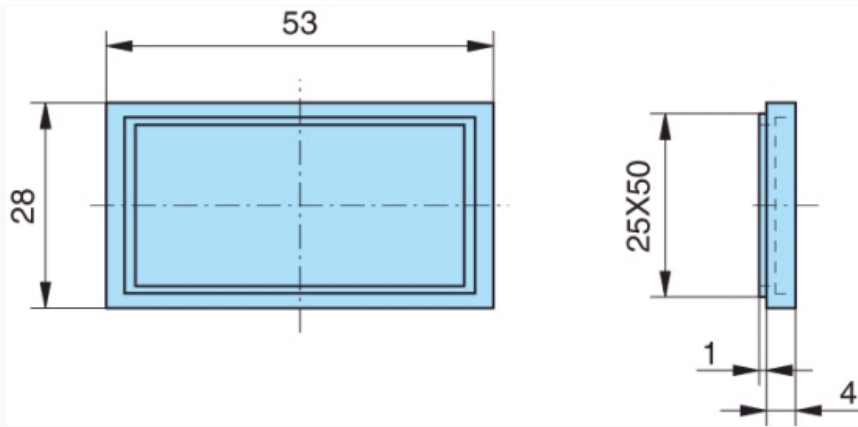


Dimensions (mm)



| N° | Legend      |
|----|-------------|
| 1  | Seal        |
| 2  | Fixing yoke |

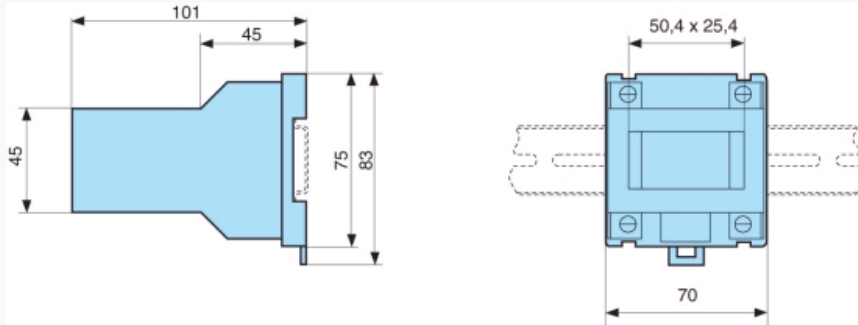
**Dimensions (mm)****Panel cut-out****Dimensions (mm)****4 appliances****Dimensions (mm)****26546843 - Adaptor for 50 x 25 mm cut-out - Fixed with screws****Dimensions (mm)****26546844 - Adaptor for 50 x 25 mm cut-out - Fixed with clips**



Accessory supplied with the counter

#### Dimensions (mm)

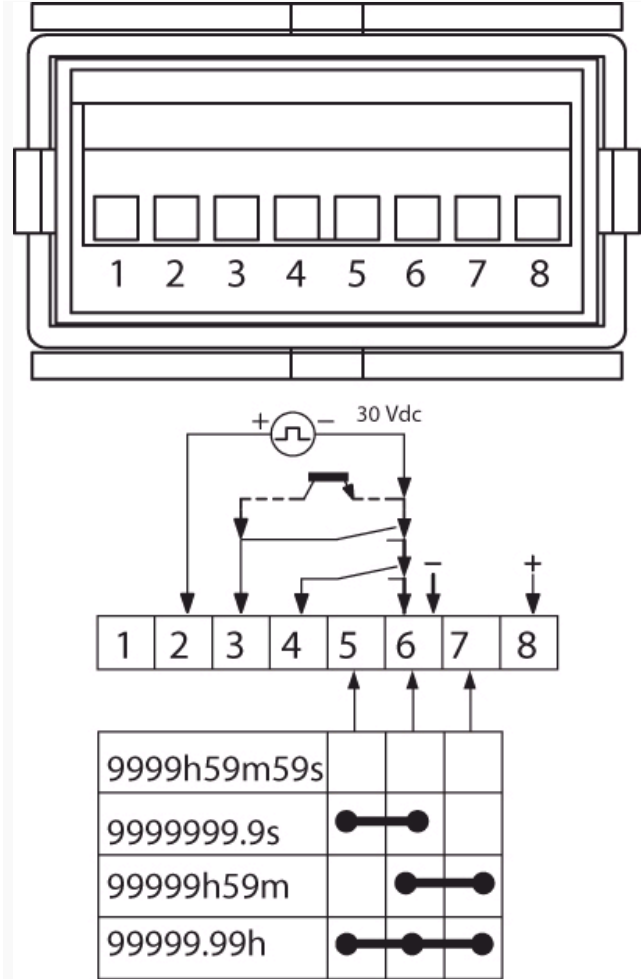
##### 26546840 - DIN rail adaptor



Accessory supplied with the counter

#### Connections

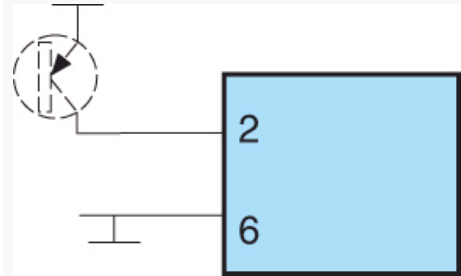
##### 2223-2323



| N° | Legend                                   |
|----|------------------------------------------|
| 1  | NC                                       |
| 2  | Start/Stop input                         |
| 3  | Reset input 100 ms                       |
| 4  | Enable panel reset                       |
| 5  | Mode 1 (Time selection)                  |
| 6  | 0 V common/ (BL- only 23xx)              |
| 7  | Mode 2 (Time selection)                  |
| 8  | Backlighting option + 24 VDC (only 2323) |

Connections

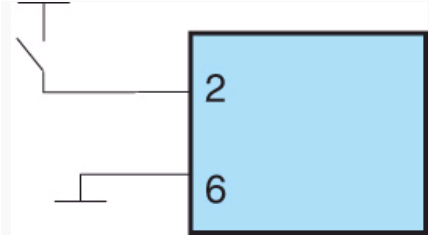
2223-2323



Start/Stop input Transistor PNP

Connections

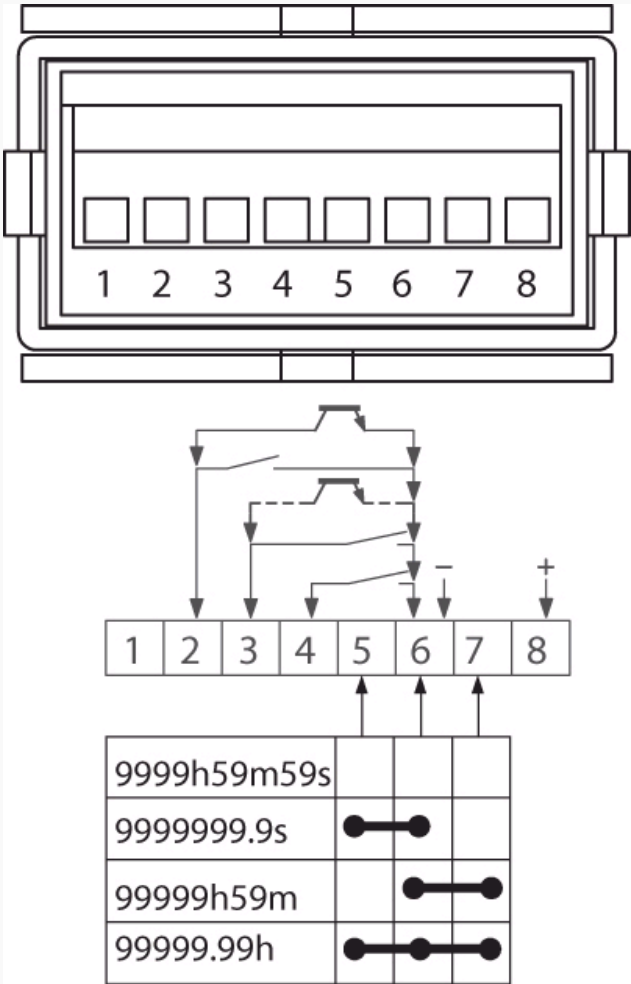
2223-2323



Start/Stop input PNP

Connections

2233-2333

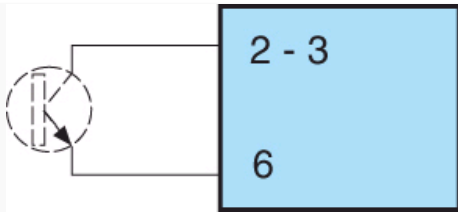


Start/Stop input PNP

| N° | Legend                                   |
|----|------------------------------------------|
| 1  | NC                                       |
| 2  | Start/Stop input                         |
| 3  | Reset input 100 ms                       |
| 4  | Enable panel reset                       |
| 5  | Mode 1 (Time selection)                  |
| 6  | 0 V common/ (BL- only 23xx)              |
| 7  | Mode 2 (Time selection)                  |
| 8  | Backlighting option + 24 VDC (only 2333) |

Connections

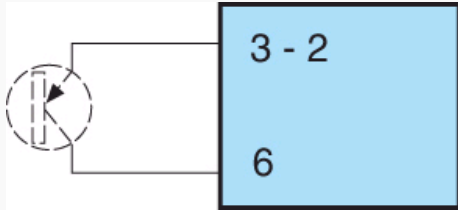
2233-2333



Start/Stop or reset input NPN - Transistor

#### Connections

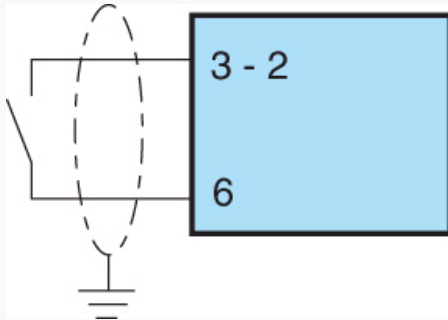
2233-2333



Start/Stop or reset input PNP - Transistor

#### Connections

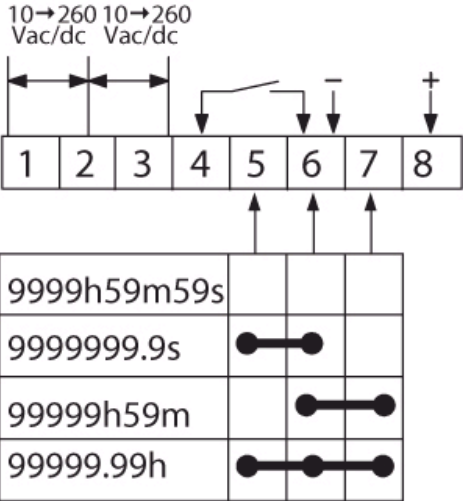
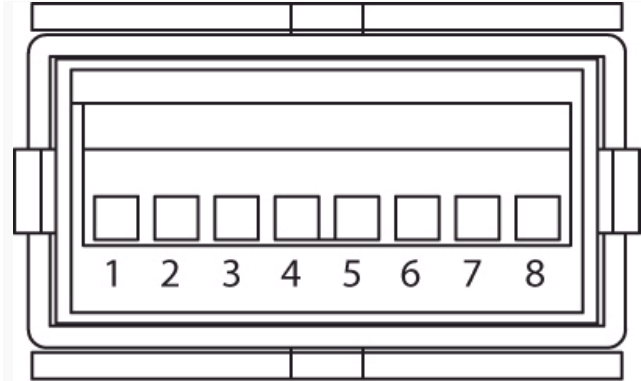
2233-2333



Start/Stop or reset input NPN - Transistor

#### Connections

2224-2324

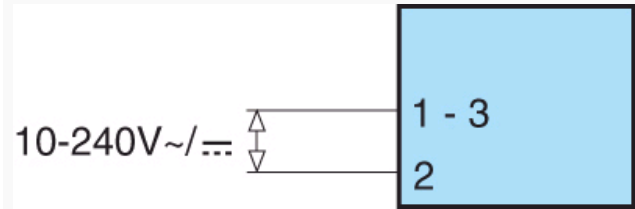


Start/Stop or reset input NPN - Transistor

| N° | Legend                                  |
|----|-----------------------------------------|
| 1  | Start/Stop input                        |
| 2  | AC/DC common                            |
| 3  | Reset input                             |
| 4  | Enable panel reset                      |
| 5  | Mode 1 (Time selection)                 |
| 6  | 0 V common/ (BL- only 23xx)             |
| 7  | Mode 2 (Time selection)                 |
| 8  | Backlighting option +24 VDC (only 2324) |

Connections

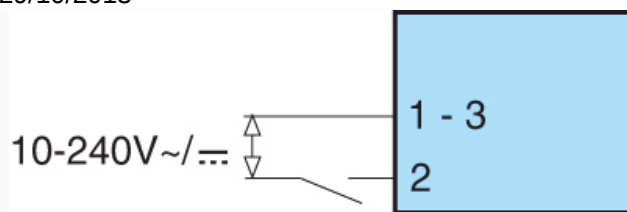
2224-2324



Start/Stop or reset input - Contact supplied with power

Connections

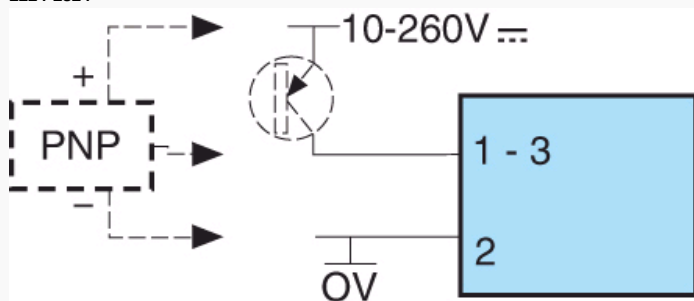
2224-2324



Start/Stop or reset input PNP Transistor or 3-wire PNP proximity sensor for leakage current detector < 1 mA

#### Connections

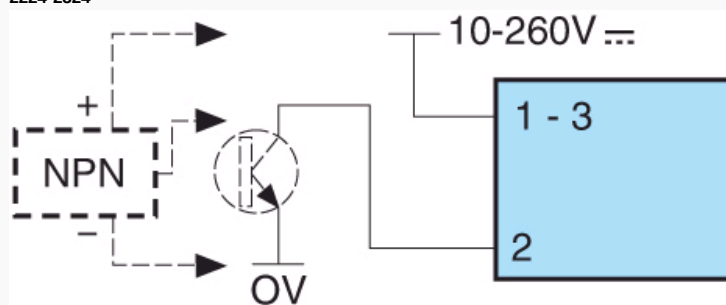
2224-2324



Start/Stop or reset input NPN Transistor or 3-wire NPN proximity sensor for leakage current detector < 1 mA

#### Connections

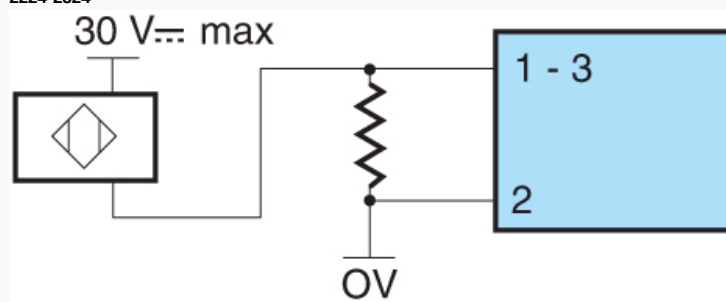
2224-2324



Start/Stop or reset input : 2-wire proximity sensor R=470 Ω/2 W for 2-wire leakage current detector ≤ 1 mA

#### Connections

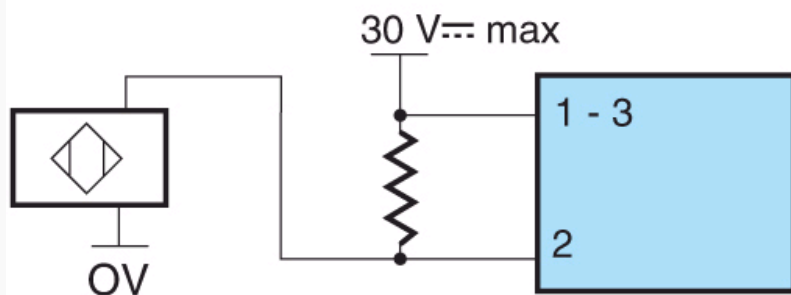
2224-2324



Start/Stop or reset input : 2-wire proximity sensor R=470 Ω/2 W for 2-wire leakage current detector ≤ 1 mA

#### Connections

2224-2324



Start/Stop or reset input : 2-wire proximity sensor R=470  $\Omega$ /2 W for 2-wire leakage current detector  $\leq 1$  mA