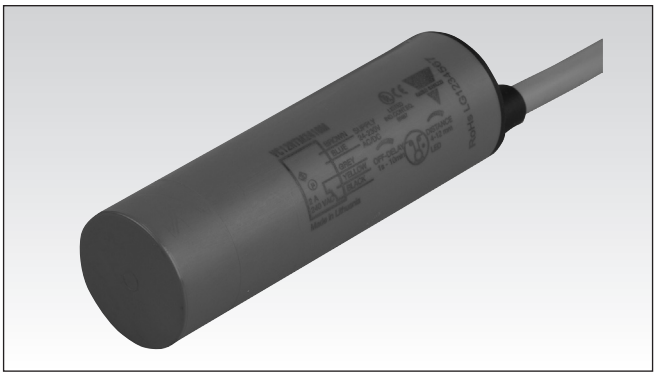
Proximity Sensors Capacitive Thermoplastic Polyester Types VC11RTM24, VC12RTM24, VC12RNM24



- **Level sensor for solid, fluid or granulated substances**
- **Adjustable sensing distance: 4-12 mm**
- **Multi voltage supply: 20.4 to 255 VAC/DC**
- **SPDT relay output**
- **Time delay on operate or release**
- **Time delay options up to 10 minutes**
- **VC11/12RTM24: With adjustable time delay**
- **VC12RNM24: Without time delay**
- **Cable versions**

Product Description

Capacitive sensor in thermoplastic polyester for mounting in a PG 36 screw gland. Available with adjustable sensing distance and with/without built-in time delay (ON or OFF delay). The relay output ensures that the load can be driven directly. Excellent for use in the agricultural area (detection of grains, fluids etc.).

Ordering Key

VC11RTM2410M

- **Type**
- **Time delay options**
- **Voltage**
- **Time delay**

Type Selection

Supply voltage	Ordering no. With ON delay	Ordering no. With OFF delay	Ordering no. Without time delay
24- 230 V AC/DC	**VC11RTM2410M**	**VC12RTM2410M**	**VC12RNM24**

Specifications

Rated operating distance (S_n)	Up to 12 mm, reference target 30 x 30 mm ST37.1 mm thick, grounded
Sensing distance	4-12 mm, adjustable Factory set at 7 mm
Sensing distance adjustment	Multiturn, 15 turns adjustment steps
Temperature drift	0.8 x $S_r \le S_u \le$ 1.2 x S_r
Hysteresis (H)	3 to 20%
Rated operational volt. (U_B) (ripple included)	20.4 to 255 VAC/DC
Rated supply frequency	47 to 63 Hz
Rated operational power	0.5 to 2.5 VA
Output	2 A Relay SPDT@240 VAC
AC12 2 A	
AC140 2 A	
DC12 2 A	
DC13 2 A	
Mechanical life typically	15x10^6 operations
Electrical lifetime	1x10^5 operations @ 2A/240VAC
Minimum operational current (I_m)	10 mA@12 VDC (i.e. Minimum relay current)
Protection	Reverse polarity and transients

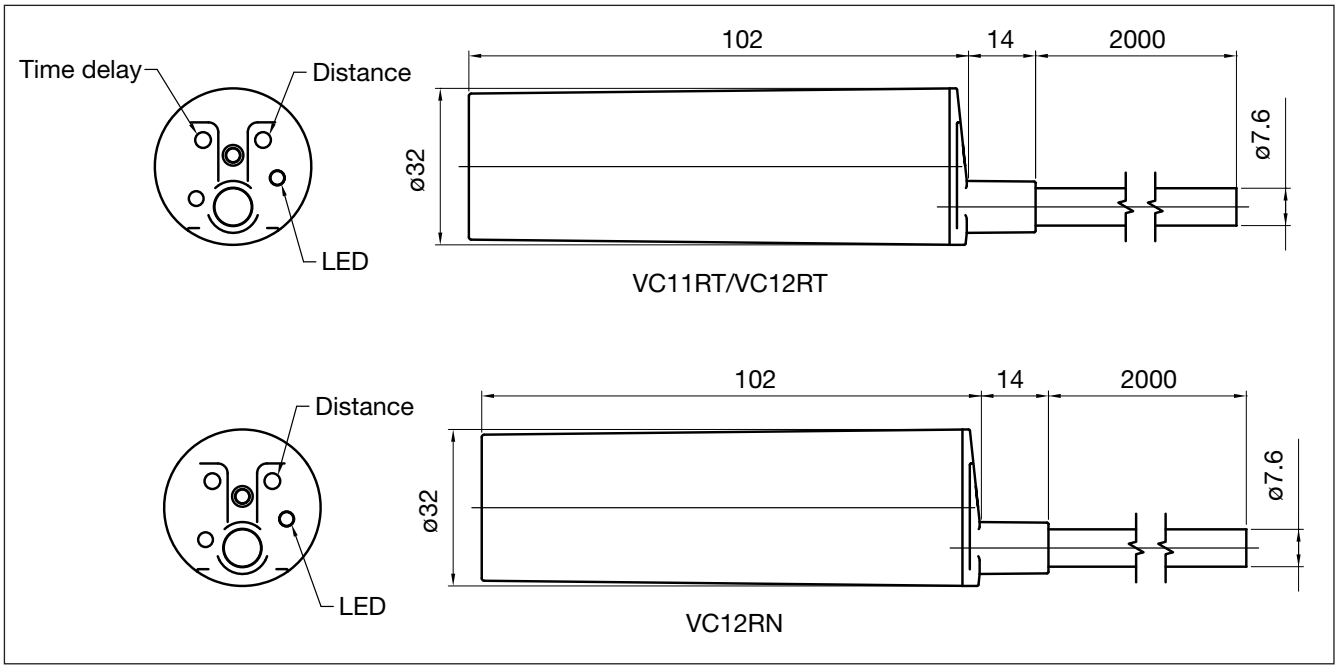
Operating frequency (f)	≤ 1 Hz
Response time	
OFF-ON (t_{ON})	≤ 500 ms
ON-OFF (t_{OFF})	≤ 500 ms
Power ON delay (t_v)	≤ 200 ms
Output function	SPDT relay
Output switching function	N.O. and N.C.
Indication	
Output ON	Red LED
Time Delay	LED flashing depends on time delay
Output Time delay	Factory settings 0 sec.
Delay on operate, adjustment VC11TRM2410M	1 sec. - 10 min.
Delay on release, adjustment VC12RTM2410M	1 sec. - 10 min.
No time delay VC12RNM24	no delay
Time delay adjustment	Multiturn, 15 turns
Environment	
Installation category	III (IEC 60664/60664A; 60947-1)
Pollution degree	3 (IEC 60664/60664A; 60947-1)
Degree of protection	IP 67 (IEC 60529; 60947-1) NEMA (1, 2, 5)

Specifications (cont.)

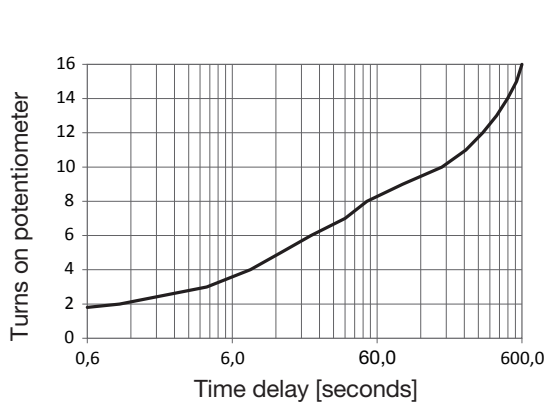
Ambient temperature	
Operating temperature	-20° to +70°C (-4° to +158°F)
Storage temperature	-40° to +85°C (-40° to +185°F)
Vibration	10 to 150 Hz, 1.0 mm/15 G (IEC 60068-2-6)
Shock	30 g / 11ms, 3 pos, 3 neg per axis (IEC 60068-2-6, 60068-2-32)
Rated insulation voltage	≥ 250 VAC (rms)

Housing material	
Body	PBT, Polyester
Backpart	Arnitel
Trimmer	LCP Vectra
Connection	
Cable	PVC, gray, 2 m 5 x 0.75 mm², Ø = 7.6 mm
Weight	≤ 320 g
Approvals	**c**ULus (UL508+CSA)
CE-marking	Yes

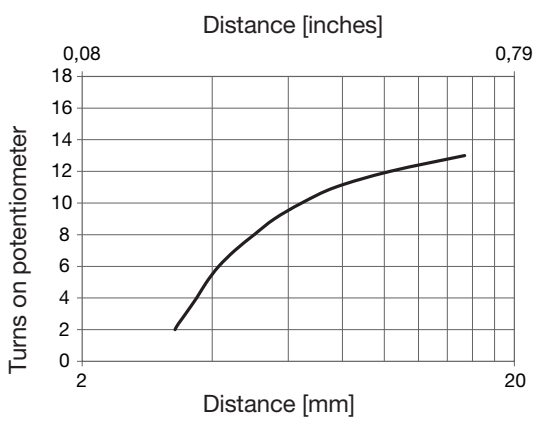
Dimensions



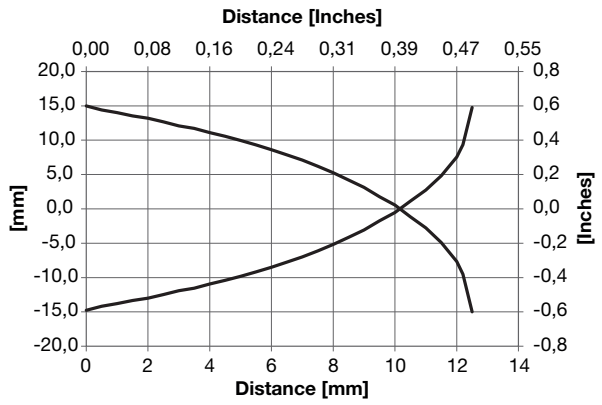
Trimmer VS Delaytime



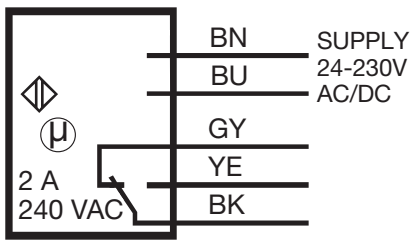
Trimmer VS Distance



Detection Diagram



Wiring Diagram



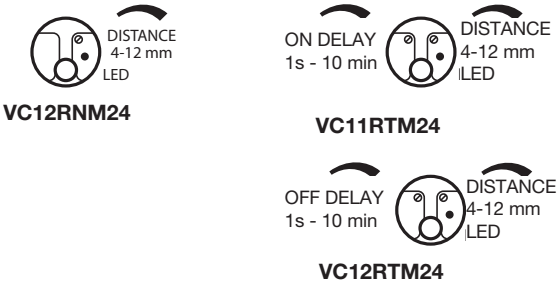
Mode of Operation

VC11RTM24 (See operation diagram). Power supply is applied to the sensor (BN and BU wires). When the target is not present, the relay operates (connection between BK and YE wires) and LED lights. When the target is detected the time measurement starts and LED flashes. After expiration of the set time (0-10 min.), the relay releases (connection between BK and GY wires) and LED turns off. The relay remains released as long as the target is detected.

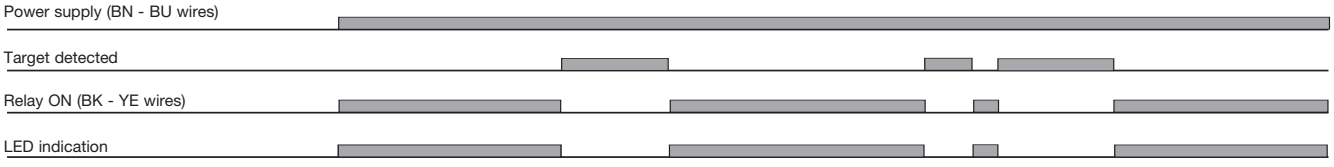
VC12RTM24 (See operation diagram). Power supply is applied to the sensor BN and BU wires) and time measurement starts. When the set time has expired (0-10 min.) the relay operates (connection between BK and YE wires) and remains connected until the target is detected. After activation of the sensor the relay releases (connection between BK and GY wires). As soon as the target is not present again the time measurements of the set time starts.

VC12RNM24 (See operation diagram). Power supply is applied to the sensor (BN and BU wires). The relay operates (connection between BK and YE wires) and remains ON until the target is detected. After activation of the sensor the relay releases (connection between BK and GY wires.)

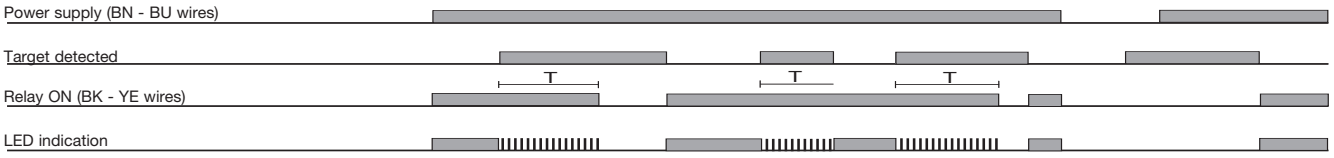
Adjustment



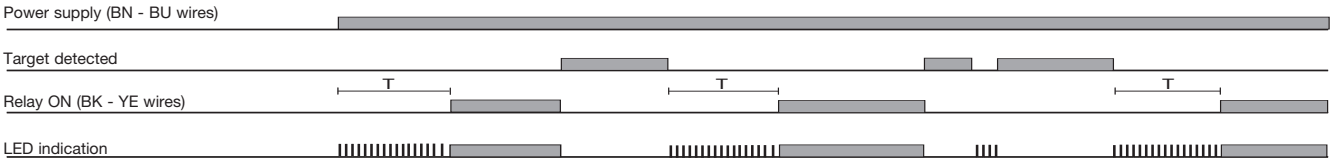
Operation Diagrams



VC12RNM24

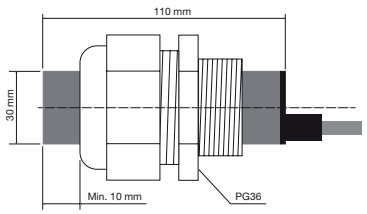


VC11RTM24



VC12RTM24

Installation Hint



For mounting VC 11/12 through wall of tank

Delivery Contents

- Capacitive switch: VC11/12
- Installation instruction
- Screwdriver
- **Packaging:** Plastic bag

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