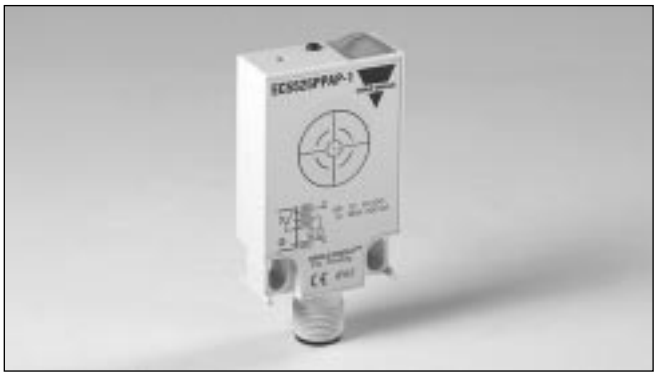
Proximity Sensors Capacitive Flat Pack Polycarbonate Housing Type EC 5525, DC

TRIPLESHIELD™

CARLO GAVAZZI



- **Featuring *TRIPLESHIELD*™ sensor protection**
- **Adjustable sensing distance 4-25 mm**
- **Rated operational voltage: 10-40 VDC**
- **Output: DC 200 mA, NPN or PNP**
- **Make and break switching function, LED indication**
- **Capacitive, Inductive and Photoelectric flat pack series in PC housing, IP 67**
- **High noise immunity**
- **Universal flush and non-flush mountable**
- **Plug and cable versions**

Product Description

Capacitive proximity switches with sensing distance 16 mm flush mounted and sensing distance 25 mm non-flush mounted by adjustment. 4-wire DC output with both make (NO) and break (NC) switching. Flat pack housing, size (WxHxD) 35 x 55 x 15 mm made in polycarbonate. Easy mounting with only two M4 screws. Ideal for use in material handling and plastic machinery applications.

Ordering Key

EC 55 25 NPA P-1

- **Capacitive proximity switch**
- **Housing**
- **Rated operational distance**
- **Output type**
- **Housing material**
- **Connection type**

Type Selection

Housing dimensions W x H x D	Rated operating dist. (S_n)[1] Flush/non-flush	Ordering no. NPN/cable Make & break swit.	Ordering no. NPN/plug Make & break swit.	Ordering no. PNP/cable Make & break swit.	Ordering no. PNP/plug Make & break swit.
35 x 55 x 15	16/25 mm	**EC 5525 NPAP**	**EC 5525 NPAP-1**	**EC 5525 PPAP**	**EC 5525 PPAP-1**

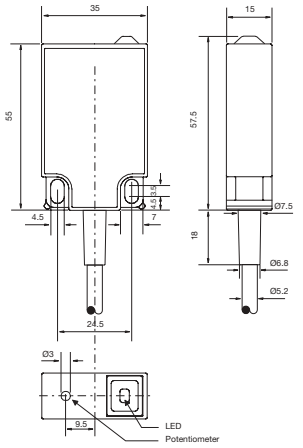
[1] Object: Grounded steel plate

Specifications

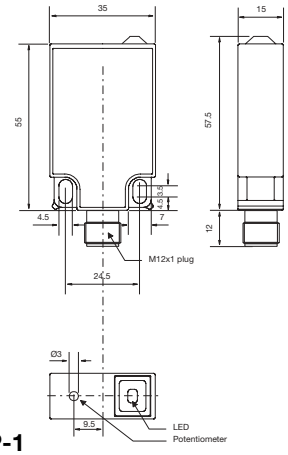
Rated operating dist. (S_n)	4 to 25 mm factory set at 25 mm
Sensitivity	Adj. 270° single turn pot.meter
Effective operating dist. (S_r)	$0.9 \times S_n \leq S_r \leq 1.1 \times S$
Usable operating dist. (S_u)	$0.8 \times S_r \leq S_n > 1.2 \times S_r$
Repeat accuracy (R)	≤ 5%
Hysteresis (H)	3 to 20% of sensing distance
Rated operational volt. (U_B)	10 to 40 VDC (ripple incl.)
Ripple	≤ 10%
Rated operational current (I_e) Continuous	 ≤ 200 mA
No-load supply current (I_o)	≤ 10 mA (no load)
Voltage drop (U_d)	≤ 2.5 VDC at max. load
Protection	Reverse polarity, short-circuit, transients

Frequency of operating cycles (f)	50 Hz
Indication for output ON	LED, yellow
Environment Degree of protection	 IP 67 (Nema 1, 3, 4, 6, 13)
Temperature Operating temperature Storage temperature	 -25 to +80°C (-13 to +176°F) -40 to +85°C (-40 to +185°F)
Housing material	Polycarbonate (PC), grey
Connection Cable Plug (-1) Cable for plug (-1)	 Grey, 2 m, 4 x 0.34 mm^2 Oil proof, PVC M12 x 1 CON.1A-series
Weight (incl. nuts)	125 g (cable version) 40 g (plug version)
Approvals	UL, CSA
CE-marking	Yes

Dimensions

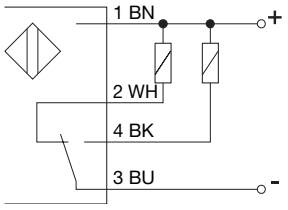


EC 5525 .PAP

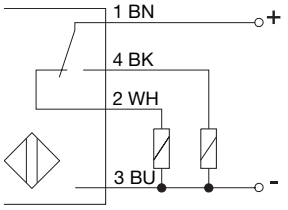


EC 5525 .PAP-1

Wiring Diagrams



NPN

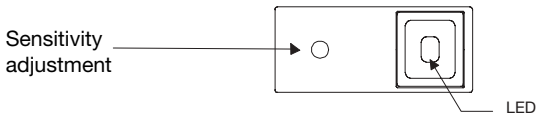


PNP

Adjustment Guide

The environments in which capacitive sensors are installed can often be unstable regarding temperature, humidity, object distance and industrial (noise) interference. Because of this, Carlo Gavazzi offers as standard features in all *TRIPLESHIELD*™ capacitive sensors a user-friendly sensitivity adjustment instead of having a fixed sensing range, extended sensing range to accommodate mechanically demanding areas, temperature stability to ensure minimum need for adjusting sensitivity if temperature varies and high immunity to electromagnetic interference (EMI).

Note:
Sensors are factory set (default) to maximum rated sensing range.



Installation Hints

Capacitive sensors have the unique ability to detect almost all materials, either in liquid or solid form. Capacitive sensors can detect metallic as well as non-metallic objects, however, their traditional use is for non-metallic materials such as:

- **Plastic Industry**
  Resins, regrinds or moulded products.
- **Chemical Industry**
  Cleansers, fertilisers, liquid soaps, corrosives and petrochemicals.
- **Wood Industry**
  Saw dust, paper products, door and window frames.
- **Ceramic & Glass Industry**
  Raw material, clay or finished products, bottles.
- **Packaging Industry** Package inspection for level or contents, dry goods, fruits and vegetables, dairy products.

Materials are detected due to their dielectric constant. The bigger the size of an object, the higher the density of material, the better or easier it is to detect the object. Nominal sensing distance for a capacitive sensor is referenced to a grounded metal plate (ST37). For additional information regarding dielectric ratings of materials please refer to Technical Information.