



Micro Detectors

Italian Sensors Technology



Cubic capacitive Sensor CQ55



Proximity Sensors Catalogue

Cod. CAT3ECQ1261644

Datasheet - CQ55 - English - Ed.01/2012





Products

capacitive
cubic

Series CQ55

capacitive cubic

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market sectors and applications

- plastic industry
- chemical & petrochemical industry
- wood industry
- photovoltaic installations
- glass & ceramic industry
- packaging industry
- logistic & automatic storage systems
- automatic breeding systems
- automatic car washing systems
- pools & whirlpool baths
- vending machines



features

DC supply voltage

Adjustable sensitivity

Flat polycarbonate plastic housing

approvals



protection degree

IP67





Products

capacitive
cubic

cubic capacitive Sensor CQ50

CQ55 capacitive sensors are made in a flat polycarbonate housing with 4-wire DC output with both make (NO) and break (NC) switching. Their triple screening allows a **high noise immunity**. Output indication is activated through yellow LED. Thanks to their short size it is possible to use them in **application requiring minimum working space**.

Continuous current versions are available, 2m length PVC cable or M12 plug versions are both available. All sensor have an **IP67 protection degree**.

packaging content

Instruction manual (English + Italian): CAT8BCT1259401

further commercial and technical documents available

Datasheet (Italian: CAT3ECQ1261642 and Spanish: CAT3SCQ1261645)

High resolution pictures

Application notes:

- position detection of buckets, dumpers, loaders in diggers (English: CAT3E001261620, Italian: CAT3I001261619 & Spanish: CAT3S001261621)
- detection of food in automatic mangers (English: CAT3E001261623, Italian: CAT3I001261622, & Spanish: CAT3S001261624)
- water level detection in whirlpool baths (English: CAT3E001261626, Italian: CAT3I001261625 & Spanish: CAT3S001261627)
- soaps and waxes level in automatic washing systems (English: CAT3E001261629, Italian: CAT3I001261628, & Spanish: CAT3S001261630)
- water level detection in automatic washing systems (English: CAT3E001261632, Italian: CAT3I001261631 & Spanish: CAT3S001261633)
- goods detection inside boxes (English: CAT3E001261635, Italian: CAT3I001261634 & Spanish: CAT3S001261636)
- freeze-dried products detection in vending machines (English: CAT3E001261638, Italian: CAT3I001261637 & Spanish: CAT3S001261639)
- photovoltaic panels presence and position detection (English: CAT3E001261641, Italian: CAT3I001261640 & Spanish: CAT3S001261642)

custom models already tested

-

minimum quantity that can be ordered

1 piece

code description

| | C | Q | 55 | / | B | P | - | 3 | E |
|----|---|---|----|---|---|---|---|---|---|
| C | Capacitive sensor | | | | | | | | |
| Q | Rectangular housing | | | | | | | | |
| 55 | 55 x 35 x 15 mm | | | | | | | | |
| B | NO + NC complementary output | | | | | | | | |
| P | PNP logic | | | | | | | | |
| N | NPN logic | | | | | | | | |
| 3 | Long distance 4...25 mm (shielded 16 mm - unshielded 25 mm) | | | | | | | | |
| A | Cable exit | | | | | | | | |
| E | M12 plug exit | | | | | | | | |

available models

| supply | installation | distance | connection | NPN NO+NC | PNP NO+NC |
|-------------|--------------------------|-----------|------------|--------------|--------------|
| 10...40 Vdc | shielded / unshielded | 4...25 mm | 2 m cable | CQ55/BN-3A | CQ55/BP-3A |
| | | | M12 Plug | CQ55/BN-3E | CQ55/BP-3E |





Products

capacitive
cubic

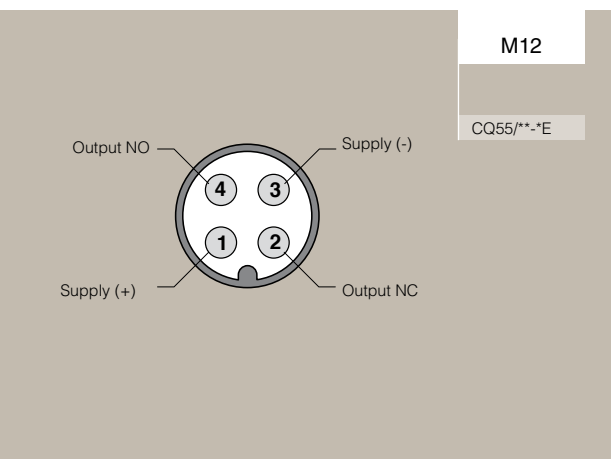
technical specifications

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

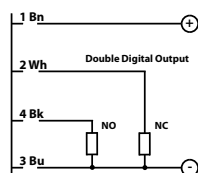
| | |
|---|--|
|  | |
| CQ55/**-3* | |
|  | |
| nominal sensing distance S_n | 25 mm |
| differential travel H | $\leq 20\%$ |
| repeat accuracy | 5% |
| rated operational voltage U_e | 10 ... 40 Vdc |
| max ripple content | $\leq 10\%$ |
| no-Load supply current | $\leq 10\text{ mA}$ |
| load current | $\leq 200\text{ mA}$ |
| leakage current | $\leq 10\text{ }\mu\text{A}$ |
| output voltage drop U_d | 2,5 V MAX ($I_L = 200\text{ mA}$) |
| output type | NPN o PNP - NO / NC |
| switching frequency f | 50 Hz |
| time delay before availability | $\leq 100\text{ ms}$ |
| supply electrical protections | polarity reversal, impulsive overvoltage |
| output electrical protections | autoreset short circuit, impulsive overvoltage |
| sensitivity adjustment | yes |
| storage temperature | -40 ... +85° C |
| operating temperature | -25 ... +80° C (without freeze) |
| thermal drift | $\leq 20\%$ |
| EMC compatibility | following the provisions of directives CE 2004/108/CE according to EN 60947-5-2 |
| protection degree | IP67 (EN 60529) NEMA 1,3,4,6,13 |
| LED indicators | yellow (output status Lon/Don) |
| housing material | PC |
| active head material | PC |
| weight | 40 g (plug) / 125 g (cable) |

| | |
|----|-------|
| BN | brown |
| BU | blue |
| BK | black |
| WH | white |

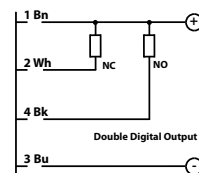
electrical diagrams of the connections



PNP models

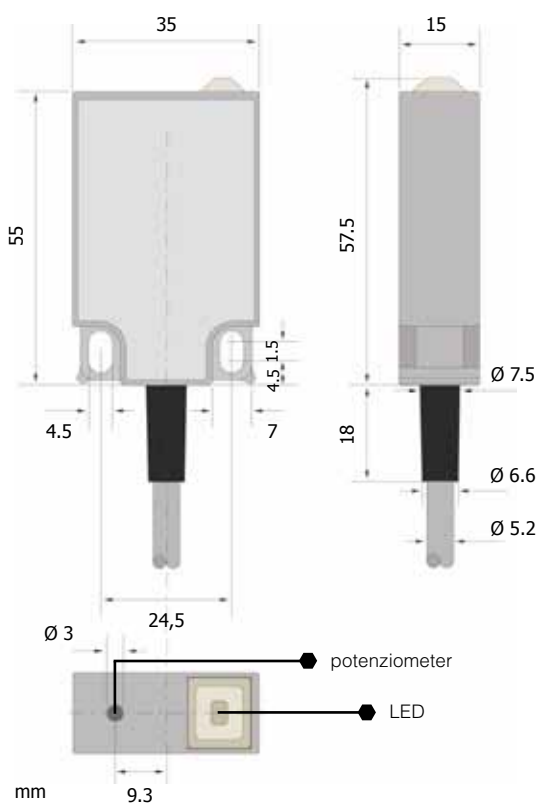


NPN models

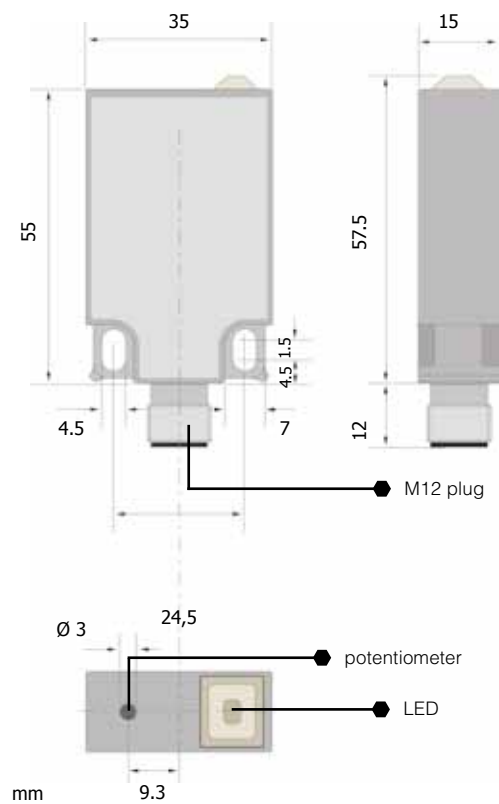


dimensions

CQ55/**-3A (cable exit)



CQ55/**-3E (plug exit)





Proximity Sensors
Catalogue



CAT3ECQ1261644 DATASHEET CQ55 ENGLISH ED.01/2012

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