



Capacitive Proximity Sensor/Switch Datasheet

CCM8-20MK Series Electrostatic Capacity Type Proximity Switch

Introduction

- Capacitive sensors measure the proximity of conductive as well as non-conductive objects with high resolution.
- Analogous to the function of an inductive proximity sensor, a capacitive proximity sensor generates an electrostatic field at the face of the sensor.
- Capacitive proximity sensors can be tuned to detect a wide range of powder, liquid or solid materials.
- It is also possible to detect the presence or absence of materials within a barrier or package when the dielectric of the material is greater than the barrier or packaging.
- Capacitive sensors can also be used as a limit switch, for level detection, object detection and for counting purposes.
- It is divided into two categories according to the working state :
NO - Normal Open type,
NC - Normal Close type

Features:

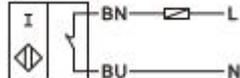
- ◆ Capacitive type, can detect any dielectric
- ◆ Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- ◆ Newly added current over-load protection; the elements are made of imported chip
- ◆ Long service life, high reliability and strong resistance property to environment
- ◆ Red LED status indicator provides easy-to-view output status.
- ◆ Simple operation with adjustable distance.
- ◆ The device can be powered by either an AC or DC power source.
- ◆ IP67 protection structure(IEC specification)

Ordering Part Number:

| Model | Detection distance | Switch point function | Working voltage | Connection form |
|--------------|--------------------|-----------------------|-----------------|-----------------|
| CCM8-20MK-N1 | 8mm±10% | NPN NO | DC6-36V | <p>NPN NO</p> |
| CCM8-20MK-N2 | 8mm±10% | NPN NC | DC6-36V | <p>NPN NC</p> |
| CCM8-20MK-P1 | 8mm±10% | PNP NO | DC6-36V | <p>PNP NO</p> |
| CCM8-20MK-P2 | 8mm±10% | PNP NC | DC6-36V | <p>PNP NC</p> |
| CCM8-20MK-A1 | 8mm±10% | AC NO | AC90-250V | <p>AC NO</p> |



Capacitive Proximity Sensor/Switch Datasheet

| | | | | |
|--------------|---------|-------|-----------|--|
| CCM8-20MK-A2 | 8mm±10% | AC NC | AC90-250V | <p>AC NC</p>  |
|--------------|---------|-------|-----------|--|

Structure Parameter:



Technical Parameter:

| | |
|---------------------------------|------------------------------------|
| Rated action distance (Sn) | 8mm |
| Installation | Non-flush mounting |
| Reliable movement distance (Sa) | 0~7mm |
| Switching frequency (f) | 50Hz |
| Hysteresis (H) | Typical values% |
| Reverse polarity protection | Yes |
| Short circuit protection | Pulse |
| Voltage drop (Ud) | DC ≤ 1V |
| Voltage drop (Ud) | AC ≤ 7V |
| Working current (IL) | 0~300 mA |
| Leakage current (Ir) | 0~0.5mA typical values 0.1uA, 25°C |
| No-load current (ID) | ≤ 15mA |
| Indicator light | Red LED |
| environment temperature | -20°C~70°C(248-343K) |
| Connection form | 2m, PVC |
| Conductor cross-sectional area | 0.14mm |
| Shell material | Brass, Nickel plating |
| Induction surface | PBT |
| Protection grade | IP67 |
| Standard | EN 60947-1:2004 |

Remarks:

- Inductive proximity sensors detect the metallic objects.
- The detection distance may fluctuate with the different materials of the detected target. Custom design in the different rated input current and the output voltage are available.



Capacitive Proximity Sensor/Switch Datasheet

- Both the configuration parameters and the cable length can be customized. Standard cable length 2M.
- If no explicit requirement for the output polarity, the proximity sensor will be supplied based on NPN mode.

WARNING : Incorrect wiring may cause damage to the sensor.

