

CPK-HF-53



- high-frequency limit level sensors
- responds to the mass of the material
- ignores deposits and material residues on the measuring part
- for demanding applications to indicate powder, dust and hygroscopic materials
- available in several versions with different types of outputs and electrical connections

The **CPK-HF-53** sensor uses the principle of the capacity measurement on high frequency. This means that the sensor reacts to the mass of material and ignores the deposits and remnants of material that remain on the measuring part - the active surface of the sensor.

Thus, the sensor can be used in demanding applications to indicate powder, dust and hygroscopic materials. The sensor can replace mechanical rotary level switches or standard capacitive level switches.

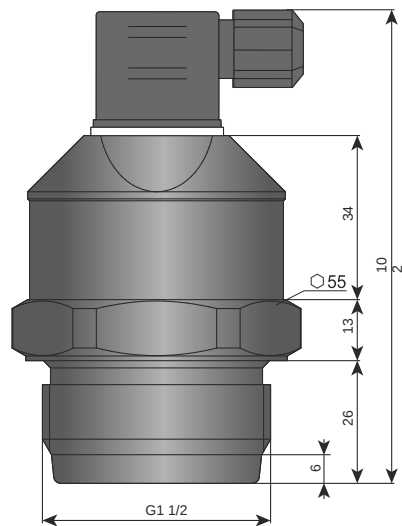
The sensor is manufactured in several versions with extra low (24V DC) or low supply voltage (230V DC). With different types of outputs (PNP, relay, SSR) and electrical connection (M 12, valve connectors, cable).

Technical specification		
Supply voltage	CPK-HF-53N-_-P-_ CPK-HF-53N-_-RE-_ CPK-HF-53N-_-SSR-_	7...34V DC 95...230V AC (± 10%) / 50...60 Hz 95...230V AC (± 10%) / 50...60 Hz
Supply current	CPK-HF-53N-_-P-_ CPK-HF-53N-_-RE-_ CPK-HF-53N-_-SSR-_	≤ 10 mA DC ≤ 60 mA AC ≤ 60 mA AC
Output	CPK-HF-53N-_-P-_ CPK-HF-53N-_-RE-_ CPK-HF-53N-_-SSR-_	open collector PNP output, max. 300 mA relay contact 1A / 250 V / 250 VA AC solid state relay, max. 130 mA / 250 V AC
Tightening torque of cable gland	CPK-HF-53N-1-_-G	1 ... 2 Nm
Recommended cable	CPK-HF-53N-1-_-G external dimension CPK-HF-53N-1-_-G wire size	Ø 4 ... 9 mm 3x 1,5 mm² max.
Cable	CPK-HF-53N-_-P-B (H) CPK-HF-53N-_-RE-B (H) CPK-HF-53N-_-SSR-B (H)	3x 0,5 mm², PVC 4x 0,75 mm², PVC 4x 0,75 mm², PVC
Max. remanent voltage (ON state)	CPK-HF-53N-_-P-_	max. 1,5 V
Max. switching frequency		0.5 Hz
Min. relative permittivity		1,3 ε
Ambient temperature range		-20 ... +60°C
Protection class		IP65
Housing material		PP and PVC-U
Weight approx.		0,13 kg

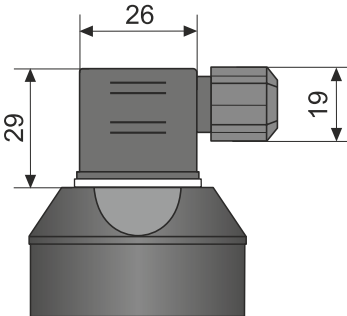


DIMENSION DRAWINGS

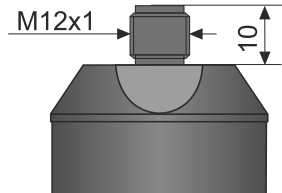
CPK-HF-53N



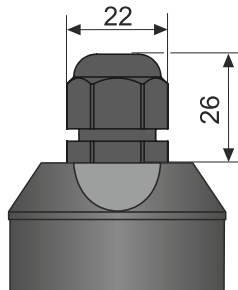
Performance „G“
with valve connector



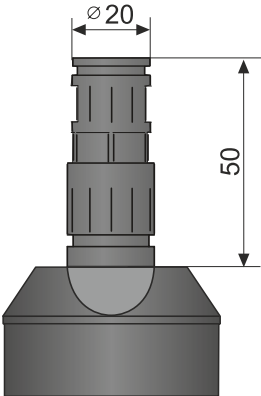
Performance „C“
with connector M12



Performance „B“ with
plastic cable gland



Performance „H“ with cable
gland for protective hose

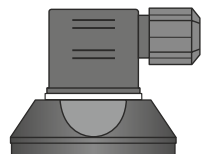


ELECTRICAL CONNECTION

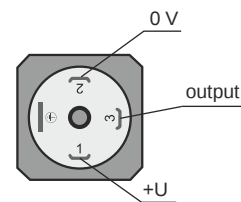
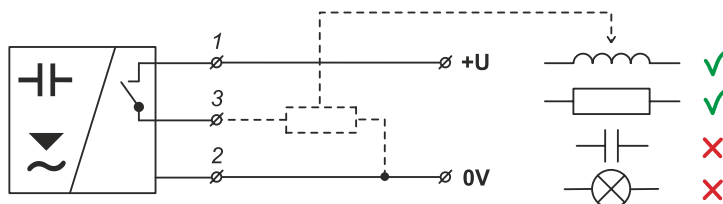
Connection through valve connector

Valid for: CPK-HF-53 _ _ _ G

CPK-HF-53N _ -P-G

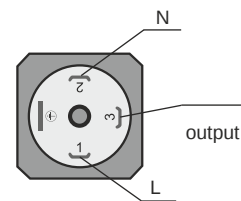
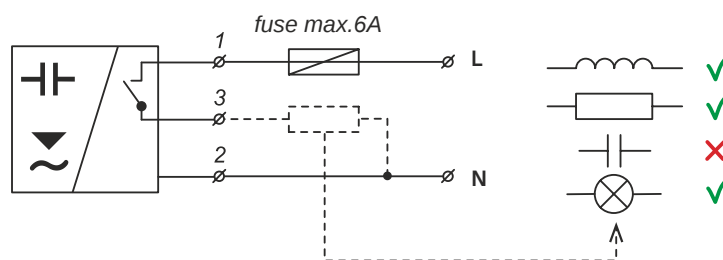


Performance „G“
with valve connector



Top view of the
connector

CPK-HF-53N _ -RE-G
CPK-HF-53N _ -SSR-G

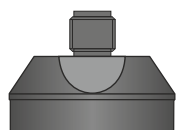


Top view of the
connector

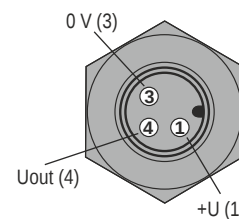
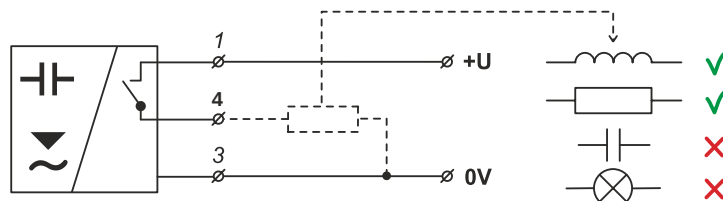
Connection through connector M12

Valid for: CPK-HF-53 _ _ _ C

CPK-HF-53N _ -P-C



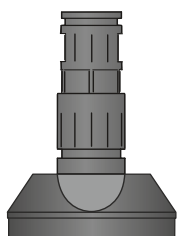
Performance „C“
with connector M12



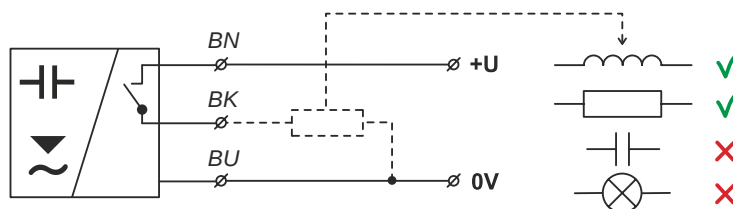
Top view of the
connector

Connection via standard cable gland or gland for protective hoses

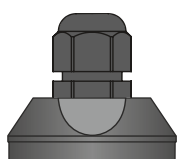
Valid for: CPK-HF-53 _ _ _ B(H)



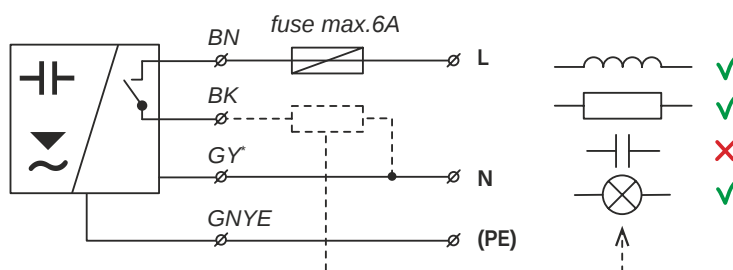
Performance „H“ with cable
gland for protective hose



CPK-HF-53N _ -P-B
CPK-HF-53N _ -P-H



Performance „B“ with short
cable gland



CPK-HF-53N _ -RE-B
CPK-HF-53N _ -RE-H
CPK-HF-53N _ -SSR-B
CPK-HF-53N _ -SSR-H

* Grey wire with blue wire ferrule.

ORDER CODE

CPK-HF-53N – 1 – – – K

cable length in [m], only for variants with connection type "B" and "H"

connection method:

G : valve connector DIN 43 650, form A

C : connector M12, cannot be selected for output type RE, SSR

B : standard cable gland

H : cable gland for protective hose

output type:

P : PNP (open collector)

RE : relay contact

SSR : solid state relay

CORRECT SPECIFICATION EXAMPLES

CPK-HF-53N-1-P-B-K2

(**N**) non-explosive areas; (**1**) flat face; (**P**) PNP (open collector) output; (**B**) plastic threaded cable gland; (**K2**) cable length 2 m.

AREAS OF APPLICATION

Detection of various kinds of bulk-solid materials (pellets, wood chips, sawdust, granulates, cereals, sand, gravel, ...) and other powder materials (flour, cement, fine mineral powders, metallic powders, ...) in hoppers, containers, silos, etc.

The sensor is not intended to be used for liquids or pasty media.

The sensor cannot be used in explosive atmospheres.

ACCESSORIES

standard – included in the price of the sensor

- 1 pcs. magnetic pen
- 1 pcs. seal
- 1 pcs. connector with IP67 coverage (for version with valve connector)

