M12 Flush All-Metal Inductive Proximity Sensors 2–4 mm



M12 flush all-metal inductive proximity sensors. Rated sensing distances 2 / 4 mm; NPN, PNP, DC 2-wire outputs; 2 m cable, M12 connector. 63 part numbers, each a fixed SEGMENsensor order code.

Sensing distance **2–4 mm** Outputs **NPN • PNP • DC 2-wire**

Connection **2 m cable • M12 connector** Part numbers **63**

Key facts

- Rated sensing distances: 2 / 4 mm.
- Supply: 10–30 V DC, 10–60 V DC.
- Outputs: NPN, PNP, DC 2-wire.
- Connections: 2 m cable (31), M12 connector (32). Housing: Stainless steel. 23 models are short or extra-short housing versions.
- Qualification samples of 1–5 pcs ship in 5–7 days; production is planned around your annual volume.

Family data

Housing	M12 thread, Stainless steel
Mounting	Flush (embeddable)
Rated sensing distance	2 / 4 mm
Outputs	NPN, PNP, DC 2-wire
Supply	10–30 V DC, 10–60 V DC
Connection	2 m cable, M12 connector
Housing length	Standard, Short (K)
Targets	All metals, Ferrous only (FE), Non-ferrous only (NF)
Sensing face	Stainless steel
Other electrical data	Per part-number datasheet, sent with the quotation

Reading the part number

SGI-FM12S-040PA-C2-K

SGI SEGMENsensor inductive

12 · S M12 flush (U = non-flush)

P · A PNP • NO (N = NPN, P = PNP, D = DC 2-wire, J = AC 2-wire, U = AC/DC; A = NO, B = NC, C = NO + NC)

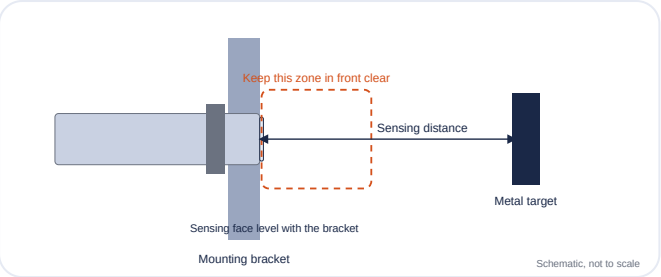
K K = short housing; FE = ferrous metals only; NF / NE = non-ferrous metals only

FM All-metal series (stainless steel sensing face)

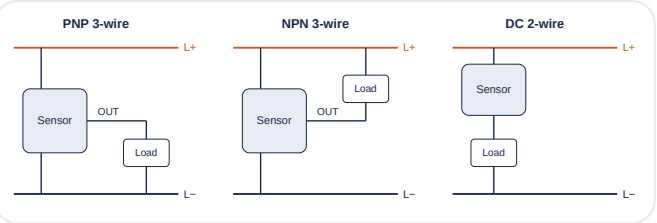
040 Sensing distance in 0.1 mm: 4 mm

C2 C2 = 2 m cable, Q4 = M12 connector

Mounting



Wiring



All part numbers

Part number	Sensing distance	Output	Supply	Connection	Housing	Length	Targets
SGI-FM12S-020NA-C2-K	2 mm	NPN NO	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-020NA-C2	2 mm	NPN NO	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-020NA-Q4-K	2 mm	NPN NO	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-020NA-Q4	2 mm	NPN NO	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-020NA-C2-FE	2 mm	NPN NO	10–30 V DC	2 m cable	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020NA-Q4-FE	2 mm	NPN NO	10–30 V DC	M12 connector	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020NA-C2-NF	2 mm	NPN NO	10–30 V DC	2 m cable	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020NA-Q4-NF	2 mm	NPN NO	10–30 V DC	M12 connector	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020NB-C2-K	2 mm	NPN NC	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-020NB-C2	2 mm	NPN NC	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-020NB-Q4-K	2 mm	NPN NC	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-020NB-Q4	2 mm	NPN NC	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-020NB-C2-FE	2 mm	NPN NC	10–30 V DC	2 m cable	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020NB-Q4-FE	2 mm	NPN NC	10–30 V DC	M12 connector	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020NB-C2-NF	2 mm	NPN NC	10–30 V DC	2 m cable	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020NB-Q4-NF	2 mm	NPN NC	10–30 V DC	M12 connector	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020PA-C2-K	2 mm	PNP NO	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals

Part number	Sensing distance	Output	Supply	Connection	Housing	Length	Targets
SGI-FM12S-020PA-C2	2 mm	PNP NO	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-020PA-Q4-K	2 mm	PNP NO	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-020PA-Q4	2 mm	PNP NO	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-020PA-C2-FE	2 mm	PNP NO	10–30 V DC	2 m cable	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020PA-Q4-FE	2 mm	PNP NO	10–30 V DC	M12 connector	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020PA-C2-NF	2 mm	PNP NO	10–30 V DC	2 m cable	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020PA-Q4-NF	2 mm	PNP NO	10–30 V DC	M12 connector	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020PB-C2-K	2 mm	PNP NC	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-020PB-C2	2 mm	PNP NC	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-020PB-Q4-K	2 mm	PNP NC	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-020PB-Q4	2 mm	PNP NC	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-020PB-C2-FE	2 mm	PNP NC	10–30 V DC	2 m cable	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020PB-Q4-FE	2 mm	PNP NC	10–30 V DC	M12 connector	Stainless steel	Standard	Ferrous only (FE)
SGI-FM12S-020PB-C2-NF	2 mm	PNP NC	10–30 V DC	2 m cable	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020PB-Q4-NF	2 mm	PNP NC	10–30 V DC	M12 connector	Stainless steel	Standard	Non-ferrous only (NF)
SGI-FM12S-020DA-C2-K	2 mm	DC 2-wire NO	10–60 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-020DA-C2	2 mm	DC 2-wire NO	10–60 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-020DA-Q4-K	2 mm	DC 2-wire NO	10–60 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-020DA-Q4	2 mm	DC 2-wire NO	10–60 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-020DB-C2-K	2 mm	DC 2-wire NC	10–60 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-020DB-C2	2 mm	DC 2-wire NC	10–60 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-020DB-Q4-K	2 mm	DC 2-wire NC	10–60 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-020DB-Q4	2 mm	DC 2-wire NC	10–60 V DC	M12 connector	Stainless steel	Standard	All metals

Part number	Sensing distance	Output	Supply	Connection	Housing	Length	Targets
SGI-FM12S-040NA-C2-K	4 mm	NPN NO	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-040NA-C2	4 mm	NPN NO	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-040NA-Q4-K	4 mm	NPN NO	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-040NA-Q4	4 mm	NPN NO	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-040NB-C2-K	4 mm	NPN NC	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-040NB-C2	4 mm	NPN NC	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-040NB-Q4-K	4 mm	NPN NC	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-040NB-Q4	4 mm	NPN NC	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-040PA-C2-K	4 mm	PNP NO	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-040PA-C2	4 mm	PNP NO	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-040PA-Q4-K	4 mm	PNP NO	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-040PA-Q4	4 mm	PNP NO	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-040PB-C2-K	4 mm	PNP NC	10–30 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-040PB-C2	4 mm	PNP NC	10–30 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-040PB-Q4-K	4 mm	PNP NC	10–30 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-040PB-Q4	4 mm	PNP NC	10–30 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-040DA-C2	4 mm	DC 2-wire NO	10–60 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-040DA-Q4-K	4 mm	DC 2-wire NO	10–60 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-040DA-Q4	4 mm	DC 2-wire NO	10–60 V DC	M12 connector	Stainless steel	Standard	All metals
SGI-FM12S-040DB-C2-K	4 mm	DC 2-wire NC	10–60 V DC	2 m cable	Stainless steel	Short (K)	All metals
SGI-FM12S-040DB-C2	4 mm	DC 2-wire NC	10–60 V DC	2 m cable	Stainless steel	Standard	All metals
SGI-FM12S-040DB-Q4-K	4 mm	DC 2-wire NC	10–60 V DC	M12 connector	Stainless steel	Short (K)	All metals
SGI-FM12S-040DB-Q4	4 mm	DC 2-wire NC	10–60 V DC	M12 connector	Stainless steel	Standard	All metals

Questions and answers

What is an all-metal inductive proximity sensor?

An all-metal inductive sensor has a stainless steel housing and a stainless steel sensing face instead of a plastic cap. It is intended for installations exposed to impacts, chips or contamination.

What does flush mean for an M12 sensor?

A flush (shielded) sensor can be mounted level with the surrounding metal; keep the area in front of the sensing face clear.

Which sensing distances are available?

This family has 63 part numbers with these rated sensing distances: 2 / 4 mm.

Which supply voltages are available?

Supply ranges in this family: 10–30 V DC, 10–60 V DC.

Which connections are available?

Connection options: 2 m cable (31 models), M12 connector (32 models).

What do the FE and NF versions mean?

FE versions detect ferrous metals only; NF (also NE) versions do not detect iron and steel. Standard versions detect all metals.

Can I order with the SEGMENsensor part number?

Yes. Each part number is one fixed configuration. Click Quote in the model table or enter the part number in the form; the datasheet and lead time are confirmed with the quotation.

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