EMS-CF-FP-D5

Low-range differential-pressure transmitter, ±500 Pa

Widest published low-range span; the 35 psid change-out point still sits about 480× outside it

A low-power differential-pressure transmitter with a ±500 Pa range, an accuracy of ±0.2% of span and a resolution of ±0.02% of span, compensated over –20 to 85 °C with a 1/8 in NPT female process connection and an IP66 rating. Radio output is NB-IoT (Cat-NB1) or LTE Cat-M1 carrying UDP, LwM2M, MQTT and NIDD, and it is supplied with the filter performance monitoring installation kit. Its ±500 Pa full scale equals 0.0725 psi (derived), so the 35 psid (2.4 bar) element change-out point sits about 480 times outside its span.

ORDERING INFORMATION

Part number	**EMS-CF-FP-D5**
Instrument	**Low-range differential-pressure transmitter**
Measurement range	**±500 Pa**
Accuracy	**±0.2% of span**
Resolution	**±0.02% of span**
Radio	**NB-IoT (Cat-NB1) or LTE Cat-M1**
Process connection	**1/8 in NPT female**
Installation kit	**EMS-CF-FP-K**

MEASUREMENT

Parameter	Value	Notes
Measurement range	**±500 Pa**	Equal to 0.0725 psi (derived). Bidirectional span
Full scale in psi	**0.0725 psi**	Derived from ±500 Pa; marked as calculated
Accuracy	**±0.2% of span**	Percent of full-scale span, not percent of reading. On a ±500 Pa range that is ±1 Pa
Resolution	**±0.02% of span**	Percent of full-scale span, not percent of reading
Compensated temperature	**–20 to 85 °C**	The range over which the published accuracy holds
Headroom check against the change-out point	**About 480×**	Derived: the 35 psid (2.4 bar) change-out point against the ±500 Pa full-scale span
Calibration interval	**Open — not published**	No interval is published in the source research; confirmed at order

PROCESS, SIGNAL AND INSTALLATION

Parameter	Value	Notes
Process connection	**1/8 in NPT female**	Published connection
Ingress protection	**IP66**	Published rating
Radio	**NB-IoT (Cat-NB1) or LTE Cat-M1**	Published radio options
Protocols	**UDP, LwM2M, MQTT, NIDD**	Published protocol set carried over the radio link
Output signal	**Radio telemetry over NB-IoT or LTE Cat-M1**	No 4–20 mA, Modbus RTU or IO-Link variant is published for this model

Parameter	Value	Notes
Supply voltage	**Open — not published**	The source research publishes no supply figure for this transmitter; confirmed at order
Static and line pressure limit	**Open — not published**	Confirmed against the supplier document at order
Overload rating	**Open — not published**	Confirmed against the supplier document at order
Wetted materials	**Open — not published**	Confirmed against the supplier document at order
Installation accessory	**Filter performance monitoring installation kit: static pressure tip, connector, valve**	Published as a dedicated kit for filter monitoring; catalogued here as EMS-CF-FP-K

APPLICATION LIMIT

Parameter	Value	Notes
Suitable duty	**Gas-side and low-differential monitoring**	The same published duty as the ±125 Pa unit in this family
Liquid element window, clean	**0.17 bar (2 psid)**	Published on a clean 2 µm element; about 27 times this unit's full scale
Liquid element window, change-out	**35 psid (2.4 bar)**	About 480 times the ±500 Pa full scale (derived)
Liquid element window, maximum	**60 psid (4.1 bar) at 20 °C (68 °F)**	The top of the element window this unit cannot display
Verdict on liquid-element duty	**Does not span a liquid element window**	A liquid-service monitor spans 0 to at least 2.4 bar (35 psid) with a line-pressure rating above the loop working pressure
Line-pressure context	**Side-stream vessel published to 150 psi (10.3 bar)**	Proof-tested at 1.5× rated maximum working pressure under IEC 62368-1, about 15.5 bar (derived)

BANDS READ BESIDE THIS INSTRUMENT, BY LOOP TYPE

Parameter	Value	Notes
Conductivity band, glycol-premix or facility-water loop	**50–300 µS/cm**	The liquid chemistry the differential-pressure reading is judged against; the loop type is named because a de-ionised loop carries a different band
Conductivity band, de-ionised technology cooling loop	**0.2–20 µS/cm**	A near-DI technology cooling loop with no glycol is held here
pH band, glycol-premix or facility-water loop	**7.0–9.0 pH**	Set by the metallurgy of the loop
pH band, de-ionised technology cooling loop	**8.0–9.5 pH**	The technology cooling side of the ASHRAE split
Temperature condition on ΔP	**Comparable only at a stated temperature**	The published maximum element differential pressure is specified at 20 °C (68 °F)

APPLICATIONS

- Gas-side differential monitoring with a wider span than the ±125 Pa unit
- Low-differential trending on air paths and filter banks
- Radio-linked monitoring points without a wired signal path
- Filter monitoring where the differential is measured in pascals

COMPATIBLE PRODUCTS

- EMS-CF-FP-K filter performance monitoring installation kit
- EMS-CF-FP-D1 where only a ±125 Pa span is needed
- EMS-CF-FP-DP where a liquid element window has to be spanned
- EMS-CF-FP-FC or EMS-CF-FP-FL for the flow side of the same trend

LOW-RANGE DIFFERENTIAL-PRESSURE UNITS

Parameter	Value	Notes
EMS-CF-FP-D1	**±125 Pa**	0.018 psi full scale (derived); radio output
EMS-CF-FP-D5	**±500 Pa**	0.0725 psi full scale (derived); the 35 psid change-out point sits about 480× its span
EMS-CF-FP-DP	**Liquid element window**	0.17 bar (2 psid) clean to 60 psid (4.1 bar) maximum at 20 °C

FLOW AND DIFFERENTIAL-PRESSURE LADDER

Parameter	Value	Notes
EMS-CF-FP-FL	**Full-bore magnetic flow meter**	1–24 in (DN25–DN600); ±0.75% of rate
EMS-CF-FP-FC	**Compact magnetic flow meter**	DN 4, 8, 15, 25; 0.14–1.66 L/s
EMS-CF-FP-D1	**Low-range ΔP transmitter**	±125 Pa; does not span a liquid element window
EMS-CF-FP-D5	**Low-range ΔP transmitter**	±500 Pa; does not span a liquid element window
EMS-CF-FP-DP	**Liquid-service element ΔP monitor**	2 psid clean to 60 psid maximum
EMS-CF-FP-K	**Filter performance monitoring installation kit**	Static pressure tip, connector, valve

NOTES

- Accuracy and resolution are published as percentages of full-scale span, not of reading. On a ±500 Pa range, ±0.2% of span is ±1 Pa.
- This unit does not span a liquid element window. The 35 psid (2.4 bar) change-out point sits about 480 times its ±500 Pa full scale, and the 0.17 bar (2 psid) clean reading of a 2 µm element is about 27 times that scale.
- Static and line pressure limit, overload rating, output variants and wetted materials are not published in the source research. Those rows stay open and are confirmed against the supplier document at order.
- Conductivity and pH rows are labelled by loop type because the two loop types carry different bands: 50–300 µS/cm and pH 7.0–9.0 on a glycol-premix or facility-water loop; 0.2–20 µS/cm and pH 8.0–9.5 on a de-ionised technology cooling loop.
- Differential-pressure figures are comparable only at a stated temperature; the published element maximum is specified at 20 °C (68 °F).

Full specification sheet and current pricing
EMS-Trade Cooling · ems-cool.com
Typical lead time confirmed on order acknowledgement.

EMS-CF-FP-D5
Rev. A
2026-09-19