

EMS-CF-FP-D1

Low-range differential-pressure transmitter, ± 125 Pa

Gas-side and low-differential monitoring; it does not span a liquid element window

A low-power differential-pressure transmitter with a ± 125 Pa range, an accuracy of $\pm 0.2\%$ of span and a resolution of $\pm 0.02\%$ 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 the vendor sells it with a filter performance monitoring installation kit. The ± 125 Pa full scale equals 0.018 psi (derived), so this unit cannot display the 35 psid (2.4 bar) change-out point of a liquid element.

ORDERING INFORMATION

Part number	EMS-CF-FP-D1
Instrument	Low-range differential-pressure transmitter
Measurement range	± 125 Pa
Accuracy	$\pm 0.2\%$ of span
Resolution	$\pm 0.02\%$ 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	± 125 Pa	Equal to 0.018 psi (derived). Bidirectional span, so the unit reads both signs of differential
Full scale in psi	0.018 psi	Derived from ± 125 Pa; marked as calculated
Accuracy	$\pm 0.2\%$ of span	Percent of full-scale span, not percent of reading. On a ± 125 Pa range that is ± 0.25 Pa
Resolution	$\pm 0.02\%$ 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
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 duty the published installation kit is built around
Liquid element window, clean	0.17 bar (2 psid)	Published on a clean 2 µm element; far outside this unit's ±125 Pa full scale
Liquid element window, change-out	35 psid (2.4 bar)	The change-out point sits about 480 times the ±500 Pa full-scale span of the sibling unit and further still outside this one
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 loop
Temperature condition on ΔP	Comparable only at a stated temperature	The published maximum element differential pressure is specified at 20 °C (68 °F); trend ΔP with fluid temperature on the same chart

APPLICATIONS

- Gas-side differential monitoring
- Low-differential pressure trending on air paths
- Filter monitoring where the differential is measured in pascals
- Radio-linked monitoring points without a wired signal path

COMPATIBLE PRODUCTS

- EMS-CF-FP-K filter performance monitoring installation kit
- EMS-CF-FP-D5 where a ± 500 Pa span is needed instead
- 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 $\times$ 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); $\pm 0.75\%$ 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 ± 125 Pa range, $\pm 0.2\%$ of span is ± 0.25 Pa.
- This unit does not span a liquid element window. The clean differential pressure of a 2 μm element is 0.17 bar (2 psid) and the change-out point is 35 psid (2.4 bar), against a ± 125 Pa full scale equal to 0.018 psi (derived).
- 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 $\mu\text{S}/\text{cm}$ and pH 7.0–9.0 on a glycol-premix or facility-water loop; 0.2–20 $\mu\text{S}/\text{cm}$ 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.

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