

EMS-CF-WQ-CI

Inductive conductivity cell, PEEK and Noryl bodies

Toroidal cell for a glycol-carrying secondary loop, spanning both published loop bands

An inductive (toroidal) conductivity cell with a PEEK body published at 0–2000 mS/cm, stable to 170 °C with a 3/4 in MNPT connection, and a Noryl body published at 0–500,000 µS low range and 0–2,000,000 µS high range, stable to 80 °C with a selectable 4–20 mA or Modbus output. A broad-span contacting alternative covers 0.057–20,000 µS/cm at 10 bar with a Pt100 Class A element. Inductive measurement is published as preferred over contacting on glycol loops because there are no electrodes to foul or coat.

ORDERING INFORMATION

Part number	EMS-CF-WQ-CI
Instrument	Inductive (toroidal) conductivity cell
PEEK body range	0–2000 mS/cm
Noryl body ranges	0–500,000 µS low range; 0–2,000,000 µS high range
Process connection	3/4 in MNPT (PEEK body)
Output	4–20 mA and Modbus, selectable
Wetted materials	PEEK body; Noryl body; 316 stainless steel on the alternative
Accuracy	Open — confirmed at order

MEASUREMENT

Parameter	Value	Notes
Measurement principle	Inductive (toroidal) conductivity cell	No electrodes in contact with the fluid, so there is nothing to foul or coat; published as preferred over contacting cells on glycol loops
Measuring range, PEEK body	0–2000 mS/cm	Equal to 0–2,000,000 µS/cm
Measuring range, Noryl body low range	0–500,000 µS	Low range of the two published Noryl spans
Measuring range, Noryl body high range	0–2,000,000 µS	High range of the two published Noryl spans
Broad-span contacting alternative	0.057–20,000 µS/cm	316 stainless-steel body cell published alongside the inductive units; maximum temperature 125 °C, maximum pressure 10 bar
Loop types covered by the published spans	Both	The spans cover the de-ionised technology cooling loop band (0.2–20 µS/cm) and the glycol-premix or facility-water band (50–300 µS/cm); this is the cell family to specify when one instrument has to serve either loop
Accuracy	Open — not published	The source research publishes no accuracy figure for this model; confirmed against the supplier document at order
Resolution	Open — not published	Confirmed against the supplier document at order
Calibration interval	Open — not published	No interval is published in the source research; confirmed at order
Temperature compensation element	Pt100 Class A	Published on the broad-span stainless-steel alternative

PROCESS, MATERIALS AND SIGNAL

Parameter	Value	Notes
Process temperature, PEEK body	Stable to 170 °C	Published stability figure for the PEEK body
Process temperature, Noryl body	Stable to 80 °C	Published stability figure for the Noryl body
Process pressure, broad-span alternative	10 bar maximum	Published with the 316 stainless-steel cell
Process connection, PEEK body	3/4 in MNPT	Published thread
Process connection, alternative	3/4 in NPT	Published with the 316 stainless-steel cell
Wetted materials	PEEK body; Noryl body; 316 stainless steel on the alternative	PEEK and 316 stainless steel are published as meeting data-centre material specifications
Output signal	4–20 mA and Modbus, selectable	Selectable on the Noryl-body build
Protocol	Modbus	Selectable against the 4–20 mA output
Supply voltage	Open — not published	The source research publishes no supply figure for this model; confirmed at order
Ingress protection	Open — not published	Confirmed against the supplier document at order

BANDS THIS INSTRUMENT POLICES, BY LOOP TYPE

Parameter	Value	Notes
Conductivity band, glycol-premix or facility-water loop	50–300 µS/cm	Glycol is a weak electrolyte; a PG25 or facility-water loop sits in this band, and the inductive cell is the published preference here
Conductivity band, de-ionised technology cooling loop	0.2–20 µS/cm	A near-DI technology cooling loop with no glycol is held here; the published spans reach down to it
pH band, glycol-premix or facility-water loop	7.0–9.0 pH	Set by the metallurgy of the loop; read on a process pH sensor
pH band, de-ionised technology cooling loop	8.0–9.5 pH	The technology cooling side of the ASHRAE split; the two loop types do not share one pH band
Why the two columns are published together	Glycol content raises conductivity	A glycol loop and a de-ionised loop cannot share a single target; the loop type is named beside every band
Verification boundary	Inline readings are trend instruments	The laboratory panel, every 50–100 days or quarterly, is the reference

APPLICATIONS

- Conductivity trend on a glycol-carrying secondary loop
- Make-up water ingress detection
- Inhibitor depletion monitoring through the ionic load
- Bypass rack installation where electrode fouling is the known failure mode

COMPATIBLE PRODUCTS

- EMS-CF-WQ-PH pH sensor
- EMS-CF-WQ-G glycol refractometer to check the mix strength behind the reading
- EMS-CF-FP-DP element differential-pressure monitor
- EMS-CF-S10 side-stream unit on the same header

WATER-QUALITY INSTRUMENT LADDER

Parameter	Value	Notes
EMS-CF-WQ-C	Contacting conductivity cell	0.04–200 µS/cm across the published fine cell constants
EMS-CF-WQ-CI	Inductive conductivity cell	Spans both the de-ionised and the glycol-premix or facility-water band
EMS-CF-WQ-PH	Process pH sensor	1–12 pH, 0–14 pH and 0–10 pH application variants
EMS-CF-WQ-NTU	Turbidity instrument	Polices the below-1 NTU loop target
EMS-CF-WQ-G	Glycol refractometer	0.0–90.0% (V/V) with 0.2% (V/V) resolution
EMS-CF-WQ-PC	Particle counter and contamination monitor	3-channel measurement to ISO 4406

NOTES

- Conductivity and pH bands are published with their loop type. A glycol-premix or facility-water loop is held at 50–300 µS/cm and pH 7.0–9.0; a de-ionised technology cooling loop is held at 0.2–20 µS/cm and pH 8.0–9.5. The loop type is named beside every band on this datasheet.
- Inductive measurement is published as preferred over contacting on data-centre glycol loops, because there are no electrodes to foul or coat.
- Accuracy, resolution, supply voltage, ingress protection and calibration interval are not published in the source research. Those rows stay open and are confirmed against the supplier document at order.
- Inline conductivity is a trend instrument; the laboratory panel every 50–100 days or quarterly is the reference.

Full specification sheet and current pricing EMS-Trade Cooling · ems-cool.com Typical lead time confirmed on order acknowledgement.	EMS-CF-WQ-CI Rev. A 2026-09-19
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