



Moisture Detectors and Controllers

In extractive gas analysis the sample gas must be conditioned before it enters the measuring cell of the analyser. One of these conditioning stages is moisture precipitating in so-called sample gas coolers. Since the composition of the sample gas can fluctuate, a condensate slip downstream from the cooler cannot be entirely ruled out. Moisture detectors installed in the cooler output indicate such slip. Combined with suitable controllers this will generate the respective signals/alarms in the control system.

The moisture detector series features a wide range of options.

FF-HM series for rail mounting:

Connect up to two parallel moisture detectors or one moisture detector

Potential-free outputs for moisture alarm and cable break on standby current (fail-safe).

LEDs for voltage, moisture and cable break.

Fault analysis settings: auto-reset or lock.

FF-x-U series inside a small casing:

Auto-resetting alarms, based on open circuit principle.

LEDs for voltage, moisture and cable break.



Technical Data

Moisture detector	FF-3-N	FF-40
Material:	PVDF, 1.4571, epoxy resin, 1.4576, PTFE	PE, 1.4571, epoxy resin, 1.4576
Cord length:	Standard 4 m, 4 x 0.34 ²	Standard 4 m, 2 x 0.25 ²
Max. operating pressure:	2 bar	40 bar
Operating temperature:	3 °C to 50 °C	3 °C to 50 °C
Cable break detection:	yes	yes



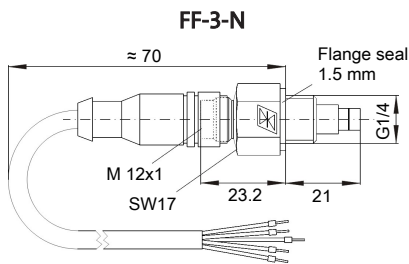
Type FF-3-N is suitable for ATEX areas (II 2G Ex ib IIC T5 T_{amb} 3...50 °C)

(Only when using ER-145/A/Ex, refer to operating instructions)

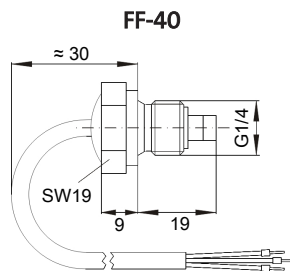
Adapters	Type G	Type S
Material:	PVDF	1.4571

Controllers	FF-HM-230	FF-HM 24	FF-19	FF-x-U	ER-145/A/Ex
Supply voltage:	230/115 V AC 50/60 Hz ±10 %	24 V DC ±10 %	24 V DC ±10 %	230/115 V AC 50/60 Hz ±10 %	230/115 V AC 48/62 Hz ±10 %
Max. switching output current:	230 V/2 A	24 V AC/DC 2 A	24 V AC/DC 2 A	230 V/2 A	AC: 250 V/5 A DC: 150 V/5 A
Protection class:	IP 40 Terminals IP 20	IP 40 Terminals IP 20	IP 20 when built-in	IP 65	IP 40 Terminals IP 20
Ex protection class:	-	-	-	-	II(1)G [EEx ia Ga] IIC
Max. lead length:	4 m	4 m	4 m	4 m	70 m
Dimensions (WxHxD/mm)	70 x 75 x 109	70 x 75 x 109	8TE x 3HE x 170	94 x 180 x 81	22.5 x 99 x 120
Connection:	Terminals	Terminals	Multi-pole connector DIN 41612 style B	Terminals	Terminals

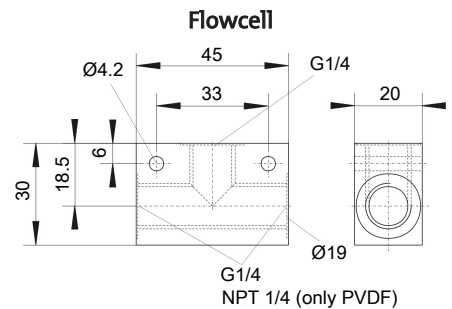
Dimensions



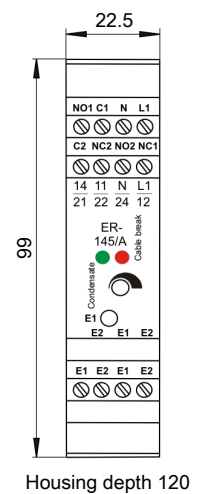
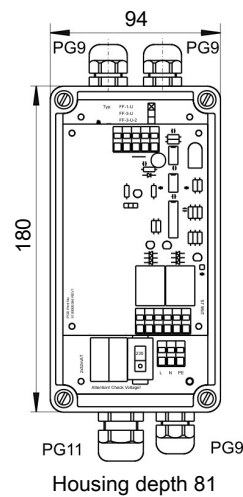
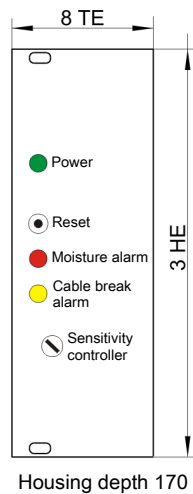
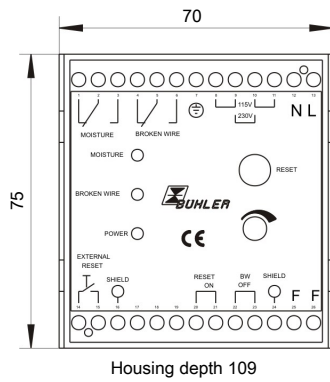
FF-HM230



FF-19



ER-145/A/Ex



Ordering instructions

Item no.	Description
41 11 100	FF-3-N moisture detector (without cable)
41 11 1000	FF-3-N moisture detector (with cable)
41 89 699	FF-40 moisture detector
40 11 000	Type G flowcell (PVDF)
40 11 0001	Type NPT1/4 flowcell (PVDF)
40 11 005	Type S flowcell (stainless steel)
41 11 020	Controller FF-HM-230
41 11 030	Controller FF-HM-24
41 11 017	Controller FF-1-U
41 11 015	Controller FF-3-U
41 11 016	Controller FF-3-U-2
41 11 012	Controller ER-145/A, 230 V
41 11 014	Controller ER-145/A, 115 V
41 11 040	Controller FF-19