Technical
Information
TI 274F/00/en

System Components
Separate housings
HTC 10 E, HTL 10 E, HTM 10 E

Separate protective housings for electronic inserts

Applications
Protective housings for electronic insert

• HTC 10 E	FEC…, EC… (Multicap TE)
• HTL 10 E	FEL… (Liquiphant II)
• HTM 10 E	FEM… (Soliphant II)

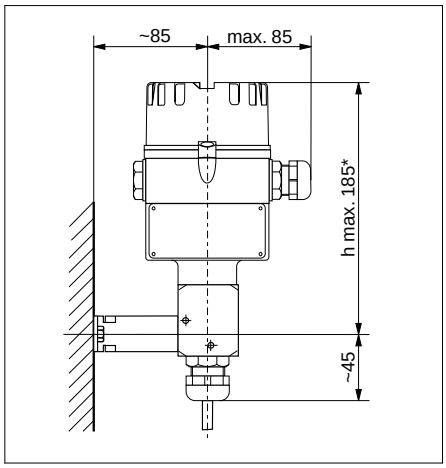
The electronic insert is mounted in a separate housing if the temperature at the measuring point prevents it being mounted directly in the sensor housing.

Features and Benefits
The sensor can be used in a much wider temperature range. This applies both to the ambient temperature of the sensor housing and the operating temperature of the process vessel.

Construction
The “separate housing” module consists of the following:
- housing, mounting base, connecting cable, all assembled
- bracket for wall mounting
- U-clamp for mounting on a 2" pipe
- terminal block for connecting the cable inside the sensor housing
- heat-resistant Pg cable gland for sensor housing

Endress+Hauser
Nothing beats know-how

Mounting



- Mount the separate housing at a point with an ambient temperature for which the electronic insert is approved
- Remove the electronic insert from the sensor housing and mount it in the separate housing
- Screw the terminal block tightly into the place where the electronic insert was mounted
- Screw the temperature-resistant cable gland into the sensor housing

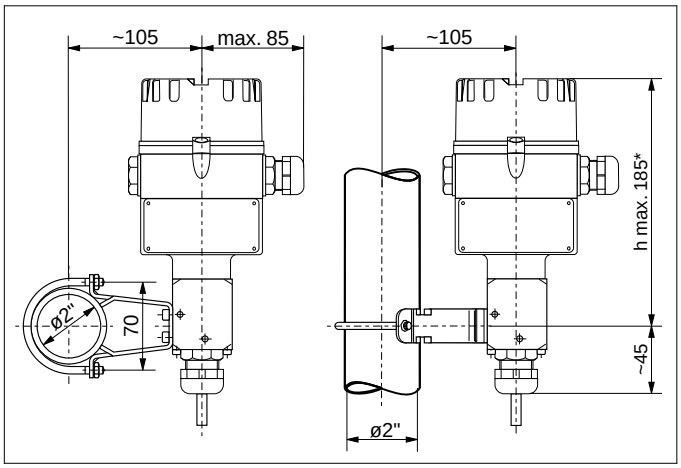
Dimensions in mm
100 mm = 3.94 in

Examples for mounting

Above:
Wall mounting with bracket

Right:
Mounting on a horizontal or vertical 2" pipe

***** max. height 145 mm with low housing cover (F 6, F 10)



Connection

See connecting diagrams in this Technical Information for cable connections inside the sensor housing.

The electronic housing is connected to a transmitter or switch in the same way as the electronic insert inside the sensor.

Important concerning the HT**C** 10 E:
The ground connection must be exactly the same in the separate housing as it was in the sensor housing.

Connecting cables in sensor housing

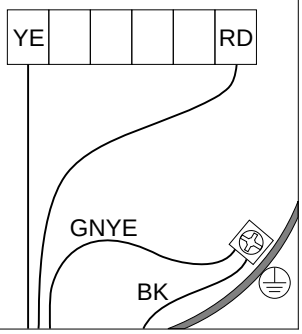
Above:
With HT**C** 10 E;
Connection with FEC 12 or EC...

Below:
With HT**C** 10 E;
Connection with FEC 22

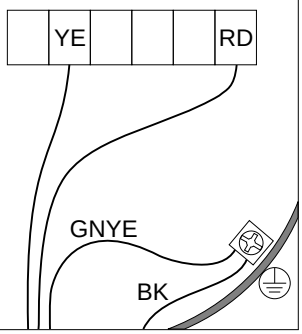
Below right:
With HT**L** 10 E
or HT**M** 10 E;
all electronic inserts

Colour coding of wires:
YE = yellow
WH = white
BU = blue
BN = brown
BK = black
RD = red
GNYE= green-yellow

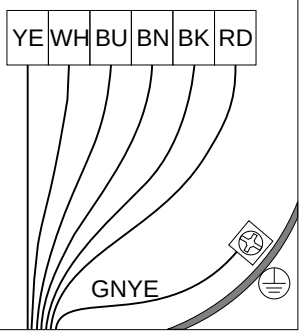
Multicap TE
FEC 12, EC…



Multicap TE
FEC 22



Liquiphant II / Soliphant II
FEL… FEM…



Product Structure

HTC 10 E Separate housing for FEC, EC (Multicap TE) — Basic weight 1.7 kg
HTL 10 E Separate housing for FEL (Liquiphant II) — Basic weight 1.6 kg
HTM 10 E Separate housing for FEM (Soliphant II) — Basic weight 1.6 kg

Certificate for HTC 10 E
A - - -
B CENELEC EEx ia IIC T6
F PTB EEx ia IIC T6, German Zone 0, Overspill protection to German flammable liquids and water conservation laws
Y Others

Certificate for HTL 10 E
A - - -
D PTB EEx ia IIC T6, German Zone 0
F PTB EEx ia IIC T6, German Zone 0 Overspill protection to German flammable liquids and water conservation laws
G CENELEC EEx ia IIC T6
Y Others

Certificate for HTM 10 E
A - - -
B BVS Dust-Ex Zone 10
G CENELEC EEx ia IIC T6
N CENELEC EEx ia IIC T6
BVS Dust-Ex Zone 10
Y Others

Electronic Insert, for HT**C** — Additional weight
C FEC 12 / 22 (with raised housing cover) 0.3 kg
S EC 11 Z / 17 Z / 37 Z / 47 Z / 61 Z / 72 Z
Y Others

Cable Length — Additional weight
1 2000 mm
2 … mm (500 … 20 000 mm *) for HTL, HTM 0.2 kg / m
9 Others

Housing and Cable Gland — Additional weight
A Aluminium F 6 (IP 66), Pg 16 (IP 66)
B Aluminium F 6 (IP 66), G ½
C Aluminium F 6 (IP 66), M 20 x 1.5
K Synthetic F 10 (IP 66), Pg 16 (IP 66) 0.1 kg
L Synthetic F 10 (IP 66), G ½ 0.1 kg
M Synthetic F 10 (IP 66), M 20 x 1.5 0.1 kg
S Steel F8 (IP 66), Pg 13.5 (IP 66) for HTC, HTL
T Steel F8 (IP 66), G ½ for HTC, HTL
U Steel F8 (IP 66), M 20 x 1.5 for HTC, HTL
Y Others

Other Accessories
1 Basic
9 Special

HT**C** 10 E - | | | | | | Complete product designation for HT**C** 10 E
HT**L** 10 E - | | | | | | Complete product designation for HT**L** 10 E
HT**M** 10 E - | | | | | | Complete product designation for HT**M** 10 E

1 kg = 2.2 lbs

*) Maximum cable length on the separate housing
= 20 m **minus** length of sensor
(length of Liquiphant or Soliphant extension tube or Soliphant rope).

Please state cable length in mm when ordering
(1 in = 25.4 mm)

The basic weight includes:
- aluminium housing F 6 with low cover
- mounting base
- 2 m connecting cable
- basic accessories (consisting of mounting bracket, U-bracket, terminal block, temperature-resistant Pg cable gland)

Certificates in preparation

Technical Data

General specifications

Manufacturer	Endress+Hauser GmbH+Co.
Designation	Separate housing HTC 10 E, HTL 10 E, HTM 10 E
Function	Separate protective housing for electronic inserts FEC, EC, FEL, FEM

Application

Level measurement	Extended temperature range for the sensors Multicap TE, Liquiphant II, Soliphant II with housing version F 6, F 8, F 10

Operation and system design

Modularity	Housings in various materials with mounting base and attached cable, with mounting accessories

Technical Data (Continued)

Process conditions

Installation

Mounting conditions	Any orientation; wall mounting with bracket as supplied; mounting on a horizontal or vertical 2" pipe with U-clamp as supplied

Ambient conditions

Ambient temperature range	Separate housing: see permissible values for electronic insert Sensor housing: see permissible values for sensor
Limiting temperature range	Separate housing: –40 °C … +70 °C *(–40 °F … +160 °F)* Sensor housing: –40 °C … +120 °C *(–40 °F … +250 °F)*
Storage temperature	–40 °C … +120 °C (without electronic insert)
Climate class	Acc. to IEC 68, Part 2-38, Fig. 2 a
Ingress protection	With Pg 16 cable gland: IP 66 to DIN 40 050
Vibration resistance	Checked to IEC 68, Part 2-6, 10 … 55 Hz, 0.15 mm, 100 cycles
Electromagnetic compatibility	Interference immunity and emission: as for sensor with mounted electronic insert

Mechanical construction

Type	E+H sensor housing type F 6, F 8, F 10. See sketch on Page 2 for dimensions
Weight	See Product Structure
Materials	Housing F 6: GD-Al 10, DIN 1125 with blue synthetic coating, grey cover Cover gasket: O-ring in EPDM (elastomer) Housing F 8: stainless steel 1.4301, bare Cover gasket: profiled silicon gasket ring (VMQ) Housing F 10: blue glass fibre reinforced polyester, grey cover Gasket for cover: silicon O-ring (VMQ) Mounting base: Al for housing F 6, 1.4301 for housing F 8 or F 10 Mounting bracket and U-clamp: stainless steel 1.4301, bare Cable insulation: silicon (VMQ) Cable glands Pg: polyamide or brass, nickel-plated
Electrical connection	Terminal block for mounting in the sensor housing High-temperature resistant Pg 16 cable gland (or Pg 13.5) for mounting on the sensor housing

Certificates and approvals

Certificates	As for sensors; see Product Structure; supplements in preparation
CE Mark	See electronic inserts

Ordering

Separate housing	See Product Structure
Supplementary documentation	Technical Information brochures for sensor and transmitters on request

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