

# System Components

## Separate housings

### HTC 10 A, HTL 10 A, HTM 10 A

Separate protective housings for electronic inserts



#### Applications

Protective housings for electronic insert

- HTC 10 A                   FEC..., EC...  
                                  (Multicap TA)
- HTL 10 A                   FEL...  
                                  (Liquiphant II)
- HTM 10 A                   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

- Easier operation when the sensor is mounted in a confined space
- Wider ambient temperature range for sensor housing
- Wider operating temperature range for capacitance probes

#### Construction

The "separate housing" module consists of the following:

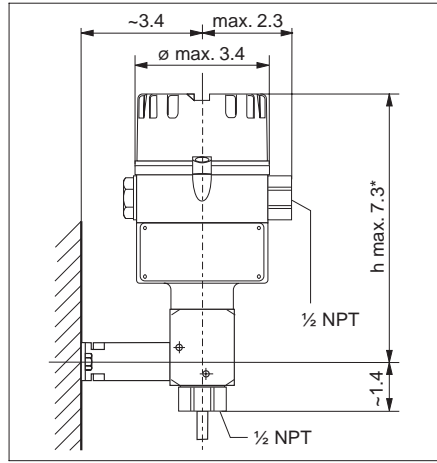
- housing, mounting base, connecting cable, all assembled
- bracket for wall mounting
- U-clamp for mounting on a 2" pipe
- terminal block for connecting the cable inside the sensor housing

Endress + Hauser

Nothing beats know-how



# Mounting

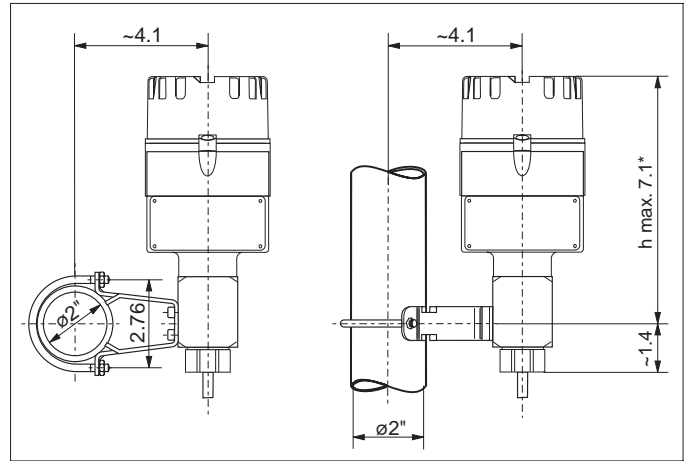


- Mount the separate housing at a point with an ambient temperature for which the electronic insert is approved
- Remove the electronic insert from the sensor housing and mount it in the separate housing
- Screw the terminal block tightly into the place where the electronic insert was mounted

## Examples for mounting

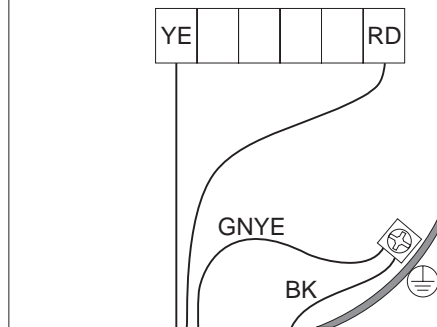
Above:  
Wall mounting with bracket  
Right:  
Mounting on a horizontal or vertical 2" pipe

\* max. height 5.7 in with low housing cover (F6, F10)



# Connection

## Multicap TA FEC 12, EC...



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

Important concerning the HTC 10 A:  
The ground connection must be exactly the same in the separate housing as it was in the sensor housing.

For application in hazardous area:  
Connect ground terminals of separate housing and sensor housing to potential matching line.

### Connecting cables in sensor housing

Above:  
With HTC 10 A;  
Connection with FEC 12 or EC...

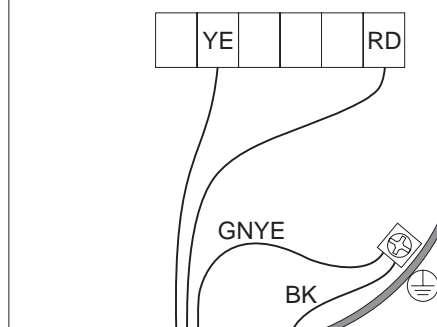
Below left:  
With HTC 10 A;  
Connection with FEC 22

Below right:  
With HTL 10 A or HTM 10 A;  
all electronic inserts

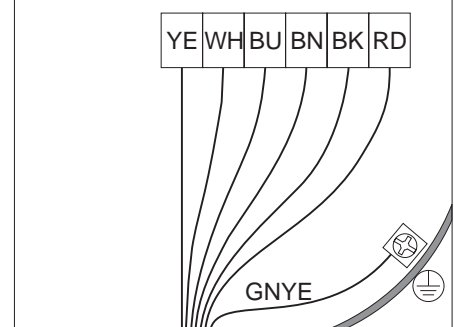
Colour coding of wires:

- YE = yellow
- WH = white
- BU = blue
- BN = brown
- BK = black
- RD = red
- GNYE = green-yellow

## Multicap TA FEC 22



## Liquiphant II / Soliphant II FEL... FEM...



# Product Structure

<b>HTC 10 A</b>	Separate housing for FEC, EC (Multicap TA)	Basic weight 1.7 kg																					
<b>HTL 10 A</b>	Separate housing for FEL (Liquiphant II)	Basic weight 1.6 kg																					
<b>HTM 10 A</b>	Separate housing for FEM (Soliphant II)	Basic weight 1.6 kg																					
<b>Certificate for HTC 10 A</b>																							
A	Standard																						
J	FM, IS Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G																						
Q	CSA, IS Class I, II, III, Div. 1, Groups A, B, C, D, G																						
Y	Others																						
<b>Certificate for HTL 10 A</b>																							
A	Standard																						
C	FM, IS Class I, II, III, Div. 1, Groups C, D, E, F, G*																						
T	CSA, IS Class I, II, III, Div. 1, Groups C, D, G*																						
Y	Others																						
<b>Certificate for HTM 10 A</b>																							
A	Standard																						
C	FM, IS Class I, II, III, Div. 1, Groups C, D, E, F, G*																						
Y	Others																						
<b>Electronic Insert, for HTC</b>																							
C	FEC 12 (with raised housing cover)	Additional weight 0.3 kg																					
D	FEC 22 (with raised housing cover) only with "Certificate A"	0.3 kg																					
S	EC 17 Z, EC 37 Z, EC 47 Z																						
T	EC 11 Z, EC 61 Z, EC 72 Z only with "Certificate A"																						
Y	Others																						
<b>Cable Length</b>																							
1	80 in	Additional weight																					
2	... in (20...750 in**) for HTL, HTM	0.2 kg / m																					
9	Others																						
<b>Housing and Cable Gland for HTC 10 A</b>																							
R	F6 (NEMA 4 X), ½ NPT	Additional weight																					
P	F10 (NEMA 4 X), ½ NPT	0.1 kg																					
4	F8 (NEMA 4 X), ½ NPT																						
Y	Others																						
<b>Housing and Cable Gland for HTL 10 A</b>																							
B	F6 (NEMA 4 X), ½ NPT	Additional weight																					
F	F10 (NEMA 4 X), ½ NPT	0.1 kg																					
4	F8 (NEMA 4 X), ½ NPT																						
Y	Others																						
<b>Housing and Cable Gland for HTM 10 A</b>																							
B	F6 (NEMA 4 X), ½ NPT	Additional weight																					
F	F10 (NEMA 4 X), ½ NPT	0.1 kg																					
Y	Others																						
<b>Other Accessories</b>																							
1	Basic																						
9	Special																						
<table border="1"> <tr> <td>HTC 10 A -</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Complete product designation for HTC 10 A</td> </tr> <tr> <td>HTL 10 A -</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Complete product designation for HTL 10 A</td> </tr> <tr> <td>HTM 10 A -</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Complete product designation for HTM 10 A</td> </tr> </table>			HTC 10 A -						Complete product designation for HTC 10 A	HTL 10 A -						Complete product designation for HTL 10 A	HTM 10 A -						Complete product designation for HTM 10 A
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HTL 10 A -						Complete product designation for HTL 10 A																	
HTM 10 A -						Complete product designation for HTM 10 A																	

\*) The Groups apply to the entire measuring chain, i.e. also for the connected transmitter

\*\*) Maximum cable length on the separate housing = 750 in minus length of sensor (length of Liquiphant or Soliphant extension tube or Soliphant rope)

Please state cable length in inch when ordering

The basic weight includes:

- aluminium housing F6 with low cover
- mounting base
- 2 m connecting cable
- basic accessories (consisting of mounting bracket, U-bracket, terminal block)

Certificates in preparation

# Technical Data

## General specifications

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

## Application

Level measurement	Extended temperature range for the sensors Multicap TA, Liquiphant II, Soliphant II with housing version F6, F8, F10
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## Operation and system design

Modularity	Housings in various materials with mounting base and attached screened cable, with mounting accessories
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# 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
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### 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 °F...+160 °F (-40 °C...+ 70 °C) Sensor housing: -40 °F...+250 °F (-40 °C...+120 °C)
Storage temperature	-40 °F...+250 °F (-40 °C...+120 °C) without electronic insert
Climate class	Acc. to IEC 68, Part 2-38, Fig. 2 a
Ingress protection	NEMA 4 X
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 F6, F8, F10. See sketch on Page 2 for dimensions
Weight	See Product Structure
Materials	Housing F6: GD-Al 10, DIN 1125 with blue synthetic coating, grey cover Cover gasket: O-ring in EPDM (elastomer) Housing F8: stainless steel 1.4301 (AISI 304), bare Cover gasket: profiled silicon gasket ring (MVQ) Housing F10: blue glass fibre reinforced polyester, grey cover Gasket for cover: silicon O-ring (MVQ) Mounting base: Al for housing F6, 1.4301 (AISI 304) for housing F8 or F10 Mounting bracket and U-clamp: stainless steel 1.4301 (AISI 304), bare Cable insulation: Silicon Cable gland at socket: ½ NPT, nickel-plated brass Cable gland at housing: ½ NPT (F6), nickel-plated brass adapter (F8, F10) Blind plug at housing: steel, galvanised zinc (F6), PBT (F8), PC (F10)
Electrical connection	Terminal block for mounting in the sensor housing

## Certificates and approvals

Certificates	See Product Structure
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## Ordering

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

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GmbH+Co.  
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Nothing beats know-how

