



## 131F6768 12

## FC-202P22KT4E20H1XGXXXXSXXXXAXBXCXXXXDX

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# Customer Service Center 🗠

Frequency converter

FC-202P22KT4E20H1XGXXXXSXXXXAXBXCXXXXDX

VLT® AQUA Drive FC-202

(P22K) 22 KW / 30 HP,

Three phase, 380 - 480 VAC, (E20) IP20 / Chassis

(H1) RFI Class A1/B (C1)

No brake chopper

Graphical Loc. Cont. Panel

Not coated PCB, No Mains Option

Latest release std. SW.

Frame: B4

No A Option, No B Option

No C1 option, No D option

Other options according to Model code

Model code: FC-202P22KT4E20H1XGXXXXSXXXXAXBXCXXXXDX

Danfoss VLT® AQUA Drive is dedicated to water and wastewater applications. With a wide range of powerful standard and optional features, the VLT® AQUA Drive provides the lowest overall cost of ownership for water and wastewater applications.

# View Efficiency Data ☑

## **PRODUCT DETAILS**

Gross weight		22.54 Kilogram
Net weight		18.84 Kilogram
Volume		105.71 Liter
EAN		5702427466715
Product View (Switch)	GLBL	Global (Standard)
Product Group	FC-	VLT® AQUA Drive FC-
Series	202	202
Power Rating	P22K	(P22K) 22 KW / 30 HP
Phase	T	Three phase
Mains Voltage	4	380 - 480 VAC
Enclosure	E20	(E20) IP20 / Chassis
RFI Filter	H1	(H1) RFI Class A1/B (C1)
Brake - Safe Stop	X	No brake chopper
LCP	G	Graphical Loc. Cont. Panel
Coating PCB	X	Not coated PCB
Mains Option	Х	No Mains Option
Adaptation A	X	Standard Cable Entries
Adaptation B	X	No adaptation
Software Release	SXXX	Latest release std. SW.



# **PRODUCT DETAILS**

Software Language Pack	X	Standard Language Pack
A Option	AX	No A Option
B Option	BX	No B Option
C0 Option MCO	CX	No C0 option
C1 Option	X	No C1 option
C Option Software	XX	No software option
D Option	DX	No D option
Frame Size	B4	B4
Typecode Part 1		FC-202P22KT4E20H1XGX
Typecode Part 2		XXXSXXXXAXBXCXXXXDX
Product Catalog	NO_VIEW	NO VIEW
Power 160% (HO) [KW]	18.5	18.5
Power 110% (NO) [KW]	22	22
Height [mm]	516,0	516,0
Width w/ no C options [mm]	229,0	229,0
Depth [mm]	242,0	242,0
Depth with Option A/B [mm]	242,0	242,0
kVA	30.5	30.5
Power Loss NO [W]	525	525
Power Loss NO [W]	525	525
Power Loss HO [W]	444	444
Power Loss HO [W]	444	444
Continuous Current (NO) [A]	44	44
Intermittent Current (NO) [A]	48.4	48.4
Continuous Current (NO) [A]	40	40
Intermittent Current (NO) [A]	44	44
Continuous Current (HO) [A]	37.5	37.5
Intermittent Current (HO) [A]	60	60
Continuous Current (HO) [A]	34	34
Intermittent Current (HO) [A]	54.4	54.4
Calculated Gross Weight [kg]		22.54
Calculated Net Weight [kg]		18.84
ECCN EU	Y901	Y901
ECCN US	3A999.a	3A999.a
Vendor	ERR01	Cannot Determine Vendor
Recommended Factory	ERR01	Cannot Determine Vendor
Modelcode01		FC-202P22KT4E20H1XGX
Modelcode02		XXXSXXXXAXBXCXXXXDX
Recommended Plant	ERR01	ERR01
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For Documents, Software, Visuals and more information, please use this link to visit the product page on Danfoss Product Store 🗷

# Accessories



130B4172 🗷

Back plate IP20/Chassis, B4

Back plate IP20/Type 1, enclosure size B4

# For more information, please use this link to visit the product page on Danfoss Product Store 🗅





# 130B7533 🗷

## Mounting Kit C Option, B/C/D/E/F(not B3)

MCF105 C Option, Mounting Kit A2 and A3



## 130B5436 @

## **Side Fixture Mounting Kit**

Side Fixture Mounting Kit for enclosure size A5 / B1 / B2 / C1 / C2

To be used when retrofitting the following MCA options:

MCA 120 Profinet

MCA 121 EtherNet

MCA 122 Modbus TCP

MCA 123 POWERLINK

MCA 124 EtherCAT

Product group: R1



#### 130B5435 🗷

# **DIN Rail Mounting Kit**



## 130B1243 🗷

# VLT® Analog I/O Option MCB 109, coated

I / O extension for FC 100, easy to retrofit thanks to modular technology.

Analog inputs / outputs galvanically isolated.

Expands the analog inputs / outputs by:

3 analog inputs: 0 ... 10V / Pt1000 / Ni1000

3 analog outputs: 0 ... 10V

Time switch (RTC backup): lithium cell for 10 years



# 130B1218 <sup>12</sup>

# VLT® Ext. Cascade Contr. MCO 101, ctd

Upgrades the built-in cascade controller to control multiple pumps

- easy to mount via plug 'n' play
- More advanced pump control in master / follower mode
- Up to 6 pumps in standard cascade control
- Up to 5 pumps in master / follower setup

This MCO option, sits in a B option space.

Danfoss can offer help with programming  $\slash\hspace{-0.4em}$  setting up MCO options.

Contact Danfoss for advice and prices.

Product group: R





## 130B1254 @

## VLT® Adv. Cascade Contr. MCO 102, ctd

Upgrades the built-in cascade controller to control up to 8 pumps

- More advanced pump control in master / follower mode
- The same cascade management hardware applies to the entire power range up to 1.2 MW
- Up to 8 pumps in standard cascade control
- Up to 8 pumps in master / follower setup

Remember to order the Mounting kit if the above MCO option is required retrofitted.

130B7530 - Mounting kit for enclosures A2 and A3

130B1413 - Mounting kit for enclosure B3

130B7532 - Mounting kit for enclosure A5

130B7533 - Mounting kit for all enclosures B, C, D, E and F (B3excepted)

Danfoss MCO options are not sold without prior advice.

Danfoss can offer help with programming / setting up MCO options.

Contact Danfoss for advice and prices.

Product group: R



## 130B1190 @

# IP21 conversion kit, top, B4

IP21 top cover for enclosure B4

Product group: R1



# 130B1189 <sup>12</sup>

# IP21 conversion kit for B4 frame.

IP21 cover for enclosure B4

Product group: R1



# 130B1172 <sup>12</sup>

# VLT® Sensor Input Card MCB 114, unctd

Protects the motor from being overheated by monitoring the temperature of bearings and windings in the motor. Three self-detecting sensor inputs for 2 or 3 wire PT100/PT1000 sensors. One additional analog input

4-20 mA.



## 130B1170 <sup>12</sup>

# **LCP Panel Mounting Kit**

The kit includes fasteners and gasket. No LCP and no cable included.





#### 130B1212 🖸

## VLT® General Purpose I/O MCB 101, ctd

MCB 101 - Advanced I / O option

Expands the number of freely programmable

Control inputs and outputs around the following I / Os:

- 3 digital inputs opto-decoupled 0 24 V.
- 2 analog inputs 0 10 V.
- 2 digital outputs NPN / PNP switchable 24 V
- 1 analog output 0/4 20 mA with reinforced coating



# 130B1210 🗷

# VLT® Relay Option MCB 105, coated

Relay extension for FC 100 and FC 300.

Extension with 3 additional load relays (changeover contacts),

easy to retrofit thanks to modular technology.

Painted version for harsh environments,

easy to retrofit thanks to modular technology.

Max. Load 240V AC (resistive): 2 A

Max. Load 240V AC (Cos Phi 0.4): 0.2 A

Max. Load 24V DC (ohmic): 1 A

Max. Load 24V DC (inductive): 0.1 A



# 130B1208 🗷

# 1xMCB 107 24V DC coat w. mount. brackets

Connect an external DC supply to keep the control section and any installed option alive during power failure. Enables full operation of the LCP (including the parameter setting) and all installed options without connection to mains.



## 130B1202 @

# VLT® DeviceNet MCA 104, coated

MCA 104 - DeviceNet interface Option for FC300 and FC100 for mounting on the control card. Painted version



# 130B1387 🗷

5xMCB107 24VDC no coat w.out mount brack



## 130B1386 🗷

VLT® Profibus DP V1 MCA 101, ctd, 5pcs



# 130B1385 ☑

VLT® Profibus DP V1 MCA101, unctd 5pcs

# For more information, please use this link to visit the product page on Danfoss Product Store 🗷





#### 130B1272 🖸

## VLT® Sensor Input Card MCB 114, coated

MCB 114 - PT100 / PT1000 option

For FC100-FC200 and FC302 (painted version)

Enables the evaluation of up to 3 PT 100 or 3 PT 1000 sensors

- Connection of 2 and 3 wire sensors
- Automatic detection of the sensor type
- Additional 4-20mA input



#### 130B1164 2

# **VLT® Extended Relay Card MCB 113**

Adds 7 digital inputs and 2 analog outputs for increased flexibility. 4 SPDT relays. Meets NAMUR recommendations. Galvanic isolation capability.



## 130B1135 12

#### VLT® PROFINET MCA 120, uncoated

MCA 120 PROFINET interface

- -Supports operation on PROFINET network with extensive properties
- -DCP support for easy setting u. Communication parameters via the PLC
- On Board web-Page with Drive Status
- Parameterization with the MCT10 software
- 2 port version, reduced external hardware



# 130B1125 🗷

# VLT® General Purpose I/O MCB 101,unctd

MCB 101 - Advanced I / O option

Expands the number of freely programmable Control inputs and outputs around the following I / Os:

- 3 digital inputs opto-decoupled 0 24 V.
- 2 analog inputs 0 10 V.
- 2 digital outputs NPN / PNP switchable 24 V
- 1 analog output 0/4 20 mA



# 130B1124 🗷

# VLT® Control Panel LCP 101, numeric

Numerical control unit for FC 100 and FC 300. Allows access to all device parameters.

Quick menu for brief commissioning. Manual / auto switchover and alarm acknowledgment.



## 130B1119 <sup>12</sup>

# VLT® EtherNet/IP MCA 121, uncoated

MCA 121 EtherNet / IP interface

- -Allows connection to EtherNet / IP based Automation systems via CIP (CommonInterface Protocol)
- -2 port design reduces external components
- -HTTP for diagnosis via built-in web server
- -SMTP, DHCP and FTP protocols
- -Prepared for parameterization with the MCT 10 software via TCP /  $\ensuremath{\text{IP}}$
- -Certified according to ODVA

## For more information, please use this link to visit the product page on Danfoss Product Store 🗷





#### 130B1118 🗷

## VLT® Ext. Cascade Contr. MCO 101, unctd

CIRCUITOS MODULARES PARA CONTROLADORES DE VELOCIDAD DE MOTORES FI FCTRICOS



## 130B1117 🗷

# LCP Mounting Kit, w/ no LCP

The kit includes fasteners, 3m cable and gasket - There is no LCP included.



## 130B1114 <sup>12</sup>

# LCP Mounting Kit w/ numerical LCP101, 3m

The kit includes numerical LCP, fasteners, 3m cable and gasket.



## 130B1113 🗷

## lcp panel kit/fc300 fg-lcp panel kit

The kit includes graphical LCP, fasteners, 3m cable and gasket.



#### 130B1110 @

# VLT® Relay Option MCB 105, uncoated

Relay extension for FC 100 and FC 300. Extension with 3 additional load relays (changeover contacts), easy to retrofit thanks to modular technology.

Max. Load 240V AC (resistive): 2 A
Max. Load 240V AC (Cos Phi 0.4): 0.2 A
Max. Load 24V DC (ohmic): 1 A
Max. Load 24V DC (inductive): 0.1 A



# 130B1154 @

# VLT® Adv. Cascade Contr. MCO 102, ctd

Easy to fit. Upgrades built-in cascade controller to operate up to 8 pumps and provide more advanced pump control in master/follower mode. Supports combination of multiple variable speed and fixed speed pumps, as well as configurations with pumps of differing capacity (mixed pump control). The additional 7 digital inputs and the 24-V DC connection to the drive enable flexible adaptation to the application. The same cascade controller hardware is compatible with the entire power range up to 2 MW.



## 130B1143 🗷

# VLT® Analog I/O Option MCB 109, unctd

I/O expansion for FC 100, through modular technology easy to retrofit. Analog inputs/outputs galvanically isolated.

Expands the analog inputs / outputs by:

3 analog inputs: 0 ... 10V / Pt1000 / Ni1000

3 analog outputs: 0 ... 10V

Time switch (RTC backup): lithium cell for 10 years

## For more information, please use this link to visit the product page on Danfoss Product Store 🗷





#### 130B1137 🗷

## VLT® PTC Thermistor Card MCB 112, ctd

MCB 112 PTC - thermistor relay MS220DA In connection with ATEX certified explosion-proof motors for full motor protection. Certified PTC sensors are the sole protection required. Integrable module with ATEX-compliant full thermal motor protection

1 PTB-certified PTC thermistor input

1 switch-off signal for using the Safe Stop function

1 logic output for error identification



#### 130B1077 🖸

# Blindcover, w/ Danfoss logo, IP55/66

LCP Blindcover IP66



# 130B1071 <sup>12</sup>

## 6 Pole Connector, FC series, 10 pcs

6-pole spring cage connectors 10 pcs



# 130B1070 🗷

## RS485 plug, FC series, 10 pcs

10pcs RS485 connectors for FC-series. Product group: R



# 130B1108 @

# VLT® 24V DC Supply MCB 107, uncoated

Connect an external DC supply to keep the control section and any installed option alive during power failure. Enables full operation of the LCP (including the parameter setting) and all installed options without connection to mains.



# 130B1107 🗷

# **VLT® Control Panel LCP 102**

Graphic operating unit LCP102 Illuminated graphic display with plain text. Supports all languages and characters. Quick menu for brief commissioning. Saving and copying parameter sets. Online help for each function



# 130B1102 <sup>12</sup>

## VLT® DeviceNet MCA 104, uncoated

Robust, efficient data handling thanks to advanced Producer/Consumer technology. ODVA's strong conformance testing policies ensure products are interoperable, and the AC-drive profile, supported using I/O instance 20/70.21/71, secures compatibility to existing systems.

# For more information, please use this link to visit the product page on Danfoss Product Store 🗷





# 130B1088 🗷

LCP Blindcover, w/ Danfoss logo, IP20/21



# 175Z0929 <sup>™</sup>

## LCP Cable, 3m

Cable for control panel (LCP), 3 meters
Works with the following LCP:
Alphanumeric control panel LCP3 - 175N0131
VLT\* LCP 102 Graphic Display - 130B1107
VLT\* LCP 101 Numeric Display - 130B1124
VLT\* LCP 102 Graphic display IP66 - 130B1078

Product group: F1

Image coming

# 175U0009 🗷

**Mounting bracket Kit, 216 x 30 x 18mm**Mounting angle for flatpack resistor 200W



# 175N2584 2

**VLT® EtherNet/IP Modbus TCP gateway** 



# 134B5225 12

# Remote LCP unit, 10m

Remote mounting kit for LCP with cover for outdoor mounting with 10 m (33 ft) cable



# 134B5224 @

# Remote LCP unit, 5m

Remote mounting kit for LCP with cover for outdoor mounting with 5 m (16 ft) cable



# 134B5223 🗷

## Remote LCP unit, 3m

Remote mounting kit for LCP with cover for outdoor mounting with 3 m (10 ft) cable





#### 134B0460 🗷

## **LCP 103 Wireless Communication Panel**

With VLT® Wireless Communication Panel LCP 103 you can communicate with MyDrive® Connect - an app that can be downloaded for iOS and Android based smartphones. MyDrive® Connect makes commissioning easy, monitor and maintain tasks on your frequency converter. VLT® Wireless Communication Panel LCP 103 shows the current status of the drive (On, Warning, Alarm, Wifi connection) via built-in LED. Detailed information is also available using MyDrive® Connect. Here do you have access to i.a. status, menu and alerts. You can also see graphs over the latest available data.

The new VLT® Wireless Communication Panel LCP 103 allows you to wireless communication to the following drives:

- VLT® HVAC Drive FC 102
- VLT® Refrigeration Drive FC 103
- VLT® AQUA Drive FC 202
- VLT® AutomationDrive FC 302

[!] Note!

LCP 103 only works on frequency converters produced in 2018 (White USB

Product group: R1

Image coming soon
Image coming soon

# 134B1992 🗷

Control Terminals w/ screw connections

Image coming

## 134B7209 🗷

cable clamp/d=36-40 k40b



# 130B0295 🗷

sparepart/terminals accessory bag

Image coming soon

# 134B1983 🛚

Accessory bag for framesize B4 small Accessory bag for framesize B4 small

134B1984 🗷

coming soon **Accessory bag for framesize B4 big** Accessory bag for framesize B4 big

# For more information, please use this link to visit the product page on Danfoss Product Store 🗷



Accessories	
lmage coming soon	130B4847 🗷 extension cable for lcp+communication
===	134B8814 ☑ VLT® PROFINET MCA120 coated 5pcs
	134B8492 년 Transducer 0-10g, 4-20mA; HS-22B50
	134B8493 <sup>12</sup> Transducer 0-25mm/s RMS 4-20mA CBM Transducer 0-25mm/s RMS 4-20mA
	134B8494
	134B8496 CABLE ASSY 10M, STRAIGHT SOCKET CONNETC.
lmage coming soon	134B8497 <sup>12</sup> Cable assy, M12 female connec.10m screen
lmage coming soon	134B6883 <sup>12</sup> VLT Progr. Contr. MCB 301, coated





#### 134B9414 @

# Antifreeze Thermostat FS20, 0/+15C

TWO-PHASE FROST PROTECTION THERMOSTATS FS-20-UW
Electronic frost protection thermostat or frost monitor with switching relay output, continuous temperature and valve output (summation output 0–10 V) and control and cascading output (0–10 V), optionally with connection for a heating element. A IP65 resistant plastic housing with display with the actual temperature, measuring range, overrange/underrange of the set switch point (frost protection temperature) and alarm indicator for "frost" or "error" (capillary breakage, overvoltage/undervoltage), quick-locking screws and a fully active sensor rod made of copper. The delivery scope includes a set of MK-05-K mounting clamps for expert attachment of the sensor rod.

Measuring range: 0...+15 °C / 32...+59 °F Accuracy: typical  $\pm$  1 K (at +10 °C)

Sensor type: 3m Copper rod active along the entire sensor length, min.

response length of 25 cm  $\,$ 

Input: 1 x 0 -10 V control input DDC

1 x 0 -10 V output valve (frost signal with control voltage and cascading)

1 x potential-free changeover contact (24 V), range of adjustment 0...+ 15  $^{\circ}\text{C}$ 

Current consumption: max. 100 mA at 24 V DC

Load resistance: RL > 50 kOhm

Ambient temperature: –15...+50 °C / 5...+122 °F (Housing) –20...+60 °C / -4...+140 °F Sensor and capillary tube > 20 cm from the housing.

Power: 24VAC/DC (± 10%) 24DC <2,4W

T2-IP65 plastic housing with three-line display 70x40 mm (WxH), a M16  $\,$ 

cable glands and MK-05-K mounting clamps.





#### 134B9413 🗷

# Airflow Sensor KLQ CO2 & Air Quality

DUCT AIR QUALITY (VOC) AND CO2 SENSOR KLQ-CO2-MB Maintenance-free duct sensor covering air quality (VOC 0...100 %), carbon dioxide (CO2 0...5000 ppm) and atmospheric pressure (hPa). The air quality is detected by a VOC sensor (mixed gas sensor for volatile organic substances) and include an automatic calibration. It determines the loading of the room air due to contaminated gases such as cigarette smoke, body perspiration, exhaled breathing air, solvent vapors, emissions etc. The air contamination can be selected into different sensitivity ranges as low, medium or high. The CO2 measurement is performed using an optical NDIR sensor (non-dispersive infra-red technology), and the detection range is calibrated for standard applications such as monitoring residential rooms and conference rooms. A microprocessor-controlled solution with factory sensor calibration, Modbus RTU connection in a resistant IP65 plastic housing with mounting flange, quick-locking screws and two M16 cable gland for cable connection. International SI units (default) can be changed to imperial (via Modbus).

VOC Sensor: Volatile Organic Compounds sensor (metal oxide) with automatic calibration

VOC measuring range: 0...100 % air quality; referred to calibrating gas

temperature dependence:  $\pm$  5 ppm pro °C or  $\pm$  0,5 % of measured value pro °C (whichever is higher) pressure dependence:  $\pm$  0.13 % per mm Hg Medium: clean air and non-aggressive, non-combustible gases

Power: 24VAC/DC ( $\pm$  10%) 24DC <1,6W Operation temperature: -10...+60 °C / 14...+140 °F T2-IP65 plastic housing two M20 cable glands

Housing dimensions:  $126 \times 90 \times 50 \text{ mm} / 4.96 \times 3.54 \times 1.97 \text{ in}$ 



# 134B9412 12

# Airflow Sensor TF65 PT1000 Temperature

**DUCT TEMPERATURE SENSOR TF 65** 

The TF 65 temperature measuring transducer is a PT1000 class B resistance sensor with passive output. Measuring range from  $-30...+150\,^{\circ}$  C. In a resistant IP67 plastic housing and M16 cable gland for cable connection and a straight protective measuring tube and a mounting flange.

Sensor type: PT1000 class B (DIN EN 60751) 1000ohm at 0°C  $\pm$  0,3 K

Measuring range: -30...+150 °C/ -22...+302 °F Ambient temperature: -20...+100 °C / -4...+212 °F

Testing current: < 0.6 mA

Insulating resistance: 100 M#, at +20 °C (500V DC)

Connection type: 2-wire connection

Measuring tube: stainless steel, V4A (1.4571), Ø 6 mm, inserted length =

 $300 \, mm \, / \, 11.8 \, in$ 

T1-IP67 plastic housing with a M16 cable glands and a mounting flange.

Housing dimensions: 72 x 64 x 37.8 mm / 2.83 x 2.52 x 1.49 in

## For more information, please use this link to visit the product page on Danfoss Product Store





#### 134B9411 🗷

## Wall Sensor AFTF Temp & Humidity

ON-WALL- HUMIDITY- AND TEMPERATURE SENSORS AFTF–MB Calibratable outside humidity and temperature sensor AFTF, detect the relative humidity (0...100% RH) and the temperature (–35...+80 °C), including various parameters in the humidity measurement. Applied in clean air and non-aggressive, dust-free environment. With a Modbus connection in a resistant IP65 plastic housing and M20 cable gland for cable connection, with quick-locking screws and an exchangeable plastic sinter filter. International SI units (default) can be changed to imperial (via Modbus).

Measuring range: 0...100 % RH (humidity) / – 35...+80 °C (temperature) Medium: clean air and non-aggressive, non-combustible gases Deviation, humidity: typical  $\pm$  2.0 % (20...80 % RH) at +25 °C, otherwise  $\pm$  3.0 %

Deviation, temperature: typical  $\pm$  0.4 K at +25 °C /  $\pm$  77 °F Zero point offset:  $\pm$  10 % RH (humidity) /  $\pm$  5 °C (temperature) Power: 24VAC ( $\pm$  20%) / 15...36VDC - 24DC &It;1,2W Operation temperature: -30...+70 °C / -22...+158 °F T3-IP65 plastic housing with two M20 cable glands Housing dimensions: 108 x 78.5 x 43.3 mm / 4.25 x 3.1 x 1.7 in



# 134B9410 <sup>12</sup>

# Wall Sensor ATM2 Temperature

OUTSIDE / WET ROOM TEMPERATURE SENSOR ATM2-MB
Calibratable outside temperature sensor ATM2, PT1000 measure temperature (-50...+150 °C), with Modbus RTU connection, in a resistant IP65 plastic housing with quick-locking screws and M20 cable gland for cable connection. International SI units (default) can be changed to imperial (via Modbus).

Sensor type: PT1000 class B (DIN EN 60751) Measuring range:  $-50...+150^{\circ}$ C /-31... +176°F Deviation: typical  $\pm$  0.2 K at +25 °C /  $\pm$  77 °F Zero point offset:  $\pm$  10 °C /  $\pm$  50 °F

Ambient temperature: Measuring transducer –30...+70  $^{\circ}$ C /-22... +158 $^{\circ}$ F

Medium: clean air and non-aggressive, non-combustible gases

Power: 24VAC ( $\pm$  20%) / 15...36VDC - 24DC <1,2W Operation temperature: -30...+70 °C / -22...+158 °F T3-IP65 plastic housing with two M20 cable glands

Housing dimensions: 108 x 78.5 x 43.3 mm / 4.25 x 3.1 x 1.7 in



Image coming

## 134B9409 @

## Airflow Sensor 8147 Temp&Humidity&7000Pa

DUCT HUMIDITY-, TEMPERATURE- AND PRESSURE SENSORS  $\pm 7000$ PA-MB Maintenance-free duct sensor covering humidity, temperature and pressure in one transducer. Microprocessor-controlled with Modbus RTU connection in a resistant IP65 plastic housing with quick-locking screws and M16 cable gland for cable connection. Including mounting flange to detect the relative humidity (0...100% RH) and the temperature (-35...+80 °C) inside a tube, with an exchangeable plastic sinter filter. A differential air pressure (max.  $\pm 7000$  Pa) with connection nozzles for pressure hose (Ø 6 mm). The duct sensor is applied in a non-aggressive and dust-free environment and is suitable for installation in ceilings, ducts and devices. International SI units (default) can be switched to Imperial (via Modbus).

Measuring range: 0...100 % RH (humidity) / – 35...+80°C /-31... +176°F (temperature)

Medium: clean air and non-aggressive, non-combustible gases Deviation, humidity: typical  $\pm$  2.0 % (20...80 % RH) at +25°C/+77°F , otherwise  $\pm$  3.0 %

Deviation, temperature: typical  $\pm$  0.2 K at +25 °C /  $\pm$  0.4 °F at +77 °F

Pressure range: ± 7000 Pa

Accuracy: 7000 Pa/28 in WC: typical  $\pm$  105 Pa at +25 °C /  $\pm$  0.12 in WC at + 77 °F

Above- # below-pressure: max.  $\pm$  50 kPa

Power: 24VAC ( $\pm$  20%) / 15...36VDC - 24DC <0,2W Operation temperature: -30...+70 °C / -22...+158 °F

Media temperature –20...+50 °C / –4...+122 °F IP65 plastic housing two

M16 cable glands



Image coming

## 134B9408 @

## Airflow Sensor 8148 Temp&Humidity&500Pa

DUCT HUMIDITY-, TEMPERATURE- AND PRESSURE SENSORS  $\pm 500$ PA-MB Maintenance-free duct sensor covering humidity, temperature and pressure in one transducer. Microprocessor-controlled with Modbus RTU connection in a resistant IP65 plastic housing with quick-locking screws and M16 cable gland for cable connection. Including mounting flange to detect the relative humidity (0...100% RH) and the temperature (-35...+80 °C) inside a tube, with an exchangeable plastic sinter filter. A differential air pressure (max.  $\pm 500$  Pa) with connection nozzles for pressure hose (Ø 6 mm). The duct sensor is applied in a non-aggressive and dust-free environment and is suitable for installation in ceilings, ducts and devices. International SI units (default) can be switched to Imperial (via Modbus).

Measuring range: 0...100 % RH (humidity) / – 35...+80°C /-31... +176°F (temperature)

Medium: clean air and non-aggressive, non-combustible gases Deviation, humidity: typical  $\pm$  2.0 % (20...80 % RH) at +25°C/+77°F , otherwise  $\pm$  3.0 %

Deviation, temperature: typical  $\pm$  0.2 K at +25 °C /  $\pm$  0.4 °F at +77 °F

Pressure range: ± 500 Pa

Accuracy: 500 Pa/2.0 in WC: typical  $\pm$  13 Pa at +25 °C /  $\pm$  0.05 in WC at + 77 °F

Above- # below-pressure: max.  $\pm$  50 kPa

Power: 24VAC ( $\pm$  20%) / 15...36VDC - 24DC <0,2W Operation temperature: -30...+70 °C / -22...+158 °F

Media temperature –20...+50 °C / –4...+122 °F IP65 plastic housing two

M16 cable glands





#### 134B9407 🗷

# **Airflow Sensor KFTF Temp & Humidity**

DUCT HUMIDITY- AND TEMPERATURE SENSORS KFTF-MB Calibratable duct humidity and temperature sensor KFTF-T3 ( $\pm$  2.0%) with Modbus RTU connection, in a resistant IP65 plastic housing with quick-locking screws and M16 cable gland for cable connection and a plastic sinter filter (exchangeable). Including mounting flange to detect the relative humidity (0...100% RH) and the temperature (-35...+80 °C) inside a tube, including various parameters in the humidity measurement. The duct sensor is applied in a non-aggressive and dust-free environment and is suitable for installation in ceilings, ducts and devices. International SI units (default) can be switched to Imperial (via Modbus).

Measuring range: 0...100 % RH (humidity) / – 35...+80 °C (temperature) Medium: clean air and non-aggressive, non-combustible gases Deviation, humidity: typical  $\pm$  2.0 % (20...80 % RH) at +25 °C, otherwise  $\pm$  3.0 %

Deviation, temperature: typical  $\pm$  0.2 K at +25 °C

Zero point offset:  $\pm$  10 % RH (humidity) /  $\pm$  5 °C (temperature)

Power: 24VAC ( $\pm$  20%) / 15...36VDC - 24DC <1,2W Operation temperature: -30...+70 °C / -22...+158 °F T3-IP65 plastic housing with two M20 cable glands

Housing dimensions: 108 x 78.5 x 43.3 mm / 4.25 x 3.1 x 1.7 in



#### 134B9406 12

# Pressure Sensor 7227 2x7000Pa, Analog

DUAL AIR PRESSURE SENSOR  $\pm 7000$ PA  $\pm 7000$ PA, ANALOGUE Dual pressure transmitter with 2x8 switchable measuring ranges and 2 automated analogue output signals in a resistant IP65 plastic housing with quick-locking screws, connection nozzles for pressure hose (Ø 6 mm) and a M16 cable gland for cable connection. The pressure measuring transducer automatically detects the required output type and converts the measurands into the required standard signal of 0–10 V or 4...20 mA. Pressure range selection:  $\pm 7000$  Pa - 0...1000Pa / 2000Pa / 3000Pa / 5000Pa / 7000Pa

Accuracy: 7000 Pa typical  $\pm$  105 Pa

Zero point offset:  $\pm$  10 % of measuring range Above- # below-pressure: max.  $\pm$  50 kPa Power: 24VAC/DC ( $\pm$  10%) <1,3W,

Output: automatically switching 0 -10 V # 4...20 mA Working resistance: Ra (ohms) = 25...450 Ohm (at I output)

Load resistance: RL > 15 kOhm (at U output)

Operation / Media temperature: -20...+50 °C / -4...+122 °F T2-IP65 plastic housing with one M16 cable gland

Housing dimensions: 126 x 90 x 50 mm / 4.96 x 3.54 x 1.97 in





#### 134B9405 🗷

# Pressure Sensor 7229 500/7000Pa, Analog

DUAL AIR PRESSURE SENSOR  $\pm 500$ PA  $\pm 7000$ PA, ANALOGUE Dual pressure transmitter with 2x8 switchable measuring ranges and 2 automated analogue output signals in a resistant IP65 plastic housing with quick-locking screws, connection nozzles for pressure hose (Ø 6 mm) and a M16 cable gland for cable connection. The pressure measuring transducer automatically detects the required output type and converts the measurands into the required standard signal of 0–10 V or 4...20 mA. Pressure range selection:  $\pm 500$  Pa - 0...100Pa / 200Pa / 300Pa / 500Pa Pressure range selection:  $\pm 7000$  Pa - 0...100Pa / 2000Pa / 3000Pa / 3000Pa

5000Pa / 7000Pa

Accuracy: 500 Pa typical  $\pm$  13 Pa Accuracy: 7000 Pa typical  $\pm$  105 Pa

Zero point offset:  $\pm$  10 % of measuring range Above- # below-pressure: max.  $\pm$  50 kPa Power: 24VAC/DC ( $\pm$  10%) <1,3W,

Output: automatically switching 0 -10 V # 4...20 mA Working resistance: Ra (ohms) = 25...450 Ohm (at I output)

Load resistance: RL > 15 kOhm (at U output)

Operation / Media temperature: -20...+50 °C / -4...+122 °F T2-IP65 plastic housing with one M16 cable gland

Housing dimensions: 126 x 90 x 50 mm / 4.96 x 3.54 x 1.97 in



#### 134B9404 <sup>12</sup>

# Pressure Sensor 7225 2x500Pa, Analog

DUAL AIR PRESSURE SENSOR  $\pm 500$ PA  $\pm 500$ PA, ANALOGUE Dual pressure transmitter with 2x8 switchable measuring ranges and 2 automated analogue output signals in a resistant IP65 plastic housing with quick-locking screws, connection nozzles for pressure hose (Ø 6 mm) and a M16 cable gland for cable connection. The pressure measuring transducer automatically detects the required output type and converts the measurands into the required standard signal of 0–10 V or 4...20 mA. Pressure range selection:  $\pm 500$  Pa - 0...100Pa / 200Pa / 300Pa / 500Pa

Accuracy: 500 Pa typical ± 13 Pa

Zero point offset:  $\pm$  10 % of measuring range Above- # below-pressure: max.  $\pm$  50 kPa Power: 24VAC/DC ( $\pm$  10%) <1,3W,

Output: automatically switching 0 -10 V # 4...20 mA Working resistance: Ra (ohms) = 25...450 Ohm (at I output)

Load resistance: RL > 15 kOhm (at U output)

Operation / Media temperature: -20...+50 °C / -4...+122 °F T2-IP65 plastic housing with one M16 cable gland





#### 134B9402 <sup>12</sup>

## Pressure Sensor 7247T 2x7000PPa & PT1000

DUAL AIR PRESSURE SENSOR  $\pm 7000$ PA Temperature drift:  $\pm 0.1$  % per °C #

°F

Zero point offset: ± 10 % of measuring range

Above- # below-pressure: max.  $\pm$  50 kPa /  $\pm$  200 inWC

Power: 24VAC (± 20%) <0,2W / 15...36VDC

Operation temperature: –30...+70 °C / –22...+158 °F

Media temperature -20...+50 °C / -4...+122 °F

T2-IP65 plastic housing with two M16 cable glands one M12 for

temperature

Housing dimensions:  $126 \times 90 \times 50 \text{ mm} / 4.96 \times 3.54 \times 1.97 \text{ in}$ 



## 134B9401 <sup>12</sup>

#### Pressure Sensor 7249T 500/7000Pa &PT1000

DUAL AIR PRESSURE SENSOR  $\pm 500$ PA Temperature drift:  $\pm 0.1$  % per °C #

°F

Zero point offset: ± 10 % of measuring range

Above- # below-pressure: max.  $\pm$  50 kPa /  $\pm$  200 inWC

Power: 24VAC (± 20%) <0,2W / 15...36VDC

Operation temperature: –30...+70 °C / –22...+158 °F

Media temperature -20...+50 °C / -4...+122 °F

T2-IP65 plastic housing with two M16 cable glands one M12 for

temperature

Housing dimensions: 126 x 90 x 50 mm / 4.96 x 3.54 x 1.97 in



# 134B9400 12

# Pressure Sensor 7245T 2x500Pa & PT1000

DUAL AIR PRESSURE SENSOR  $\pm 500$ PA Temperature drift:  $\pm$ 

0.1% per °C/°F

Zero point offset: ± 10 % of measuring range

Above-/below-pressure: max.  $\pm$  50 kPa /  $\pm$  200 inWC

Power: 24VAC (± 20%) <(&gt;&lt;&lt;)&gt;0,2W / 15...36VDC

Operation temperature: –30...+70 °C / –22...+158 °F

Media temperature -20...+50 °C / -4...+122 °F

T2-IP65 plastic housing with two M16 cable glands one M12 for

temperature

Housing dimensions:  $126 \times 90 \times 50 \text{ mm} / 4.96 \times 3.54 \times 1.97 \text{ in}$