M/FCHC.4.1

KNX FCHC Actuator

Hardware Version：A

Datasheet

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Figure 1. KNX FCHC Actuator

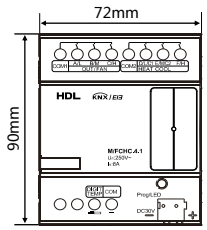

Figure 2. Dimensions - Front View

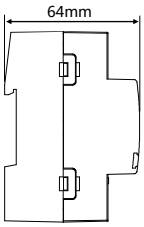

Figure 3. Dimensions - Side View

TS/C 1.0

Figure 4. 2.5m Digital Temperature Sensor

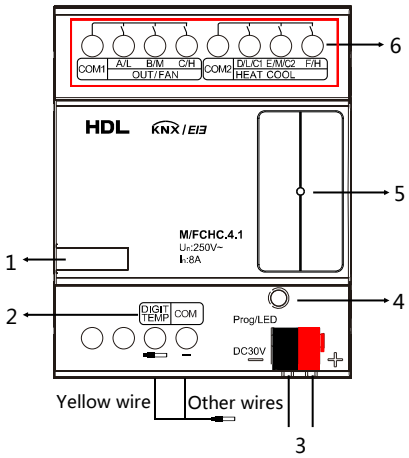

Figure 5. Wiring

Overview

KNX FCHC Actuator (See Figure 1) adopts KNX/EIB communication and is used for controlling air conditioner, fan, compressor and floor heating. The module function is set via ETS software and can work in conjunctions with different panels. And up to 7 digital temperature sensors can be connected.

Functions

- Multiple control objects: HVAC, Fan, Compressor, Floor heating, one control mode for each control target.
- Control modes: HVAC mode, Fan mode, Compressor mode and Floor heating mode.
- Active control and passive control: More flexible to work in conjunction with different panels.
  When in active control mode, this module can work in conjunction with panels without PI algorithm such as HDL-M/DLP04.1.
  When in passive control mode, this module can work in conjunction with panels with algorithm such as Siemens 5WG1.
- Local temperature detection and limit temperature alarm. When the local temperature is too high or too low, the module will send an alarm signal to the bus. This module can connect to up to 7 temperature sensors.

Important Notes

- Programming - The device is compliant with the KNX standard and the parameters are set by the Engineering Tool Software (ETS).
- KNX cable - dedicated KNX standard cable.
- KNX Bus voltage - 21-30V DC.
- When this module controls the compressor, it needs to connect the AC contactor first, and connect with the compressor control line through the AC contactor.

Product Information

Dimensions - See Figure 2 - 3

2.5 Meter Digital Temperature Sensor - See Figure 4

Wiring - See Figure 5

1. Label area
2. Local temperature, can connect up to 7 digital temperature sensors
3. KNX/EIB interface: 21-30VDC
4. Programming button & Red programming LED & Green Local temperature LED: Red LED on when programming, green LED keeps on for 3 seconds when testing temperature.
5. Green working LED: When the module is in working mode, the LED flickers in with an interval of 1 second.
6. Output channels

The function of each channel depends on the working mode.

HVAC mode:

Channel A, B, C control fan speed.

Channel D is heating output and channel E is cooling output.

Channel F is disabled.

Fan mode:

Channel A, B, C, control one fan group and D, E, F control another one.

Channel A and D are low speed, channel B and E are middle speed, channel C and F are high speed.

Compressor mode:

Channel A, B, C controls fan speeds.

Channel D, E are connected to compressors.

Channel F is disabled.

Floor heating mode:

Channel A, B, C, D, E, F are all floor heating

Installation - See Figure 6 - 8

Step 1. Fix the DIN rail with screws.

Step 2. Buckle the bottom cap of the KNX FCHC Actuator on the edge of the DIN rail.

Step 3. Press the device on the DIN rail, slide it and fix it up until an appropriate position is adjusted.

Safety Precautions

- The installation and commissioning of the device must be carried out by HDL or the organization designated by HDL. For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- The device should be installed in distribution box with DIN rail. HDL takes no responsibility for all consequences caused by installation and wire connection which are not in accordance with this document.
- Please do not privately disassemble the device or change components, otherwise it may cause mechanical failure, electric shock, fire or body injury.
- Please resort to our customer service department or designated agencies for maintenance service. The warranty is not applicable for the product fault caused by private disassembly.

Package Contents

M/FCHC.4.1*1 / Label*5 / 2.5m Digital Temperature Sensor*1 / Datasheet*1

Figure 6

1

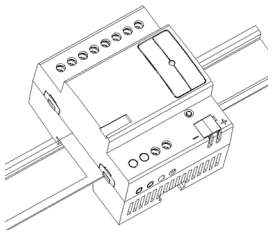

Figure 7

2

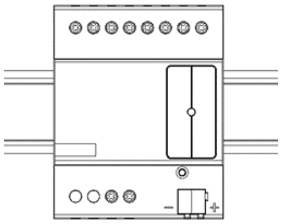

Figure 8

Figure 6 - 8. Installation

Technical Data

Basic Parameters

Working voltage	21~30V DC
Working current	20mA/30V DC
Communication	KNX
Cable diameter of KNX terminal	0.6 – 0.8mm
Temperature sensor	Digital temperature sensor (TS/C1.0)
Output current	8A (AC) 5A (DC)

External Environment

Working temperature	-5℃~45℃
Working relative humidity	≤90%
Storage temperature	-20℃~60℃
Storage relative humidity	≤93%

Specifications

Dimensions	90mm×72mm×64mm
Net weight	168g
Housing material	Frame-retardant nylon
Installation	35mm DIN rail installation (See Figure 6 - 8)
Protection rating (Compliant with EN 60529)	IP20

Name and Content of Hazardous Substances in Products

Components	Hazardous substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Chromium VI (Cr (VI))	Poly-brominated biphenyls (PBB)	Poly-brominated diphenyl ethers (PBDE)
Plastic	o	o	o	o	o	o
Hardware	o	o	o	o	-	-
Screw	o	o	o	×	-	-
Solder	×	o	o	o	-	-
PCB	×	o	o	o	o	o
IC	o	o	o	o	×	×

The symbol “-” indicates that the hazardous substance is not contained.

The symbol "o" indicates that the content of the hazardous substances in all the homogeneous materials of the component is below the limit requirement specified in the Standard IEC62321-2015.

The symbol “×” indicates that the content of the hazardous substance in at least one of the homogeneous materials of the part exceeds the limit requirement specified in the Standard IEC62321-2015.

KNX Cable Guide

KNX	KNX Cable
-	Black
+	Red

Technical support
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