CE c(UL)us ASi Spec. 3.0

Model number

VBM-CTR-K20-R2

AS-Interface master RS 232 cabinet module

Features

- Stand alone master with PLC functionality and RS 232 interface
- Large, graphic LCD
- RS 232 diagnosis interface
- Easy commissioning and fault diagnosis via LEDs and graphic display
- Earth fault detection
- AS-Interface noise detection

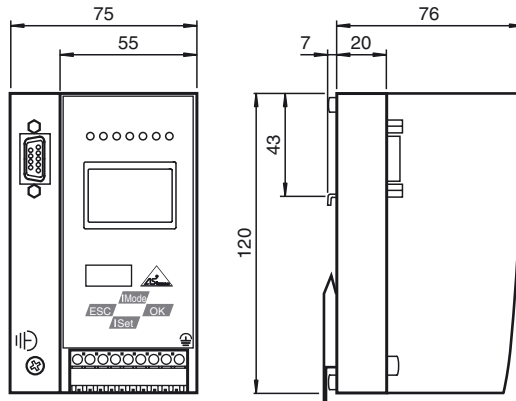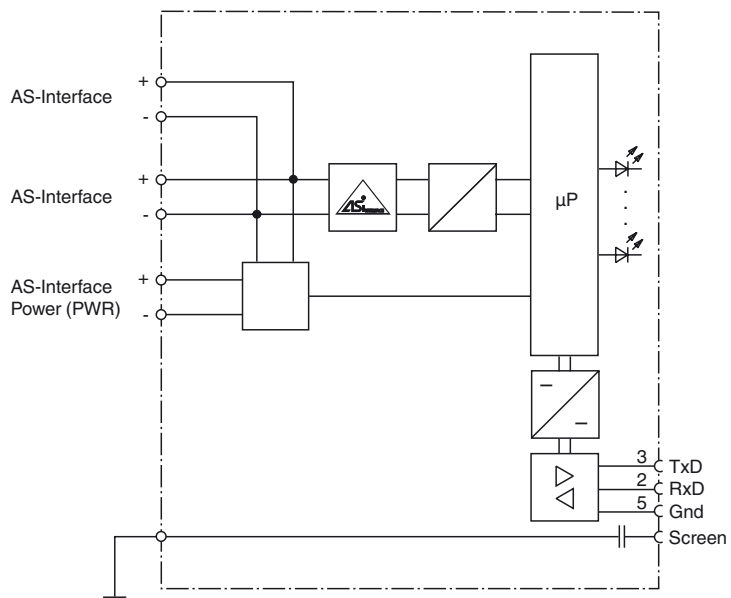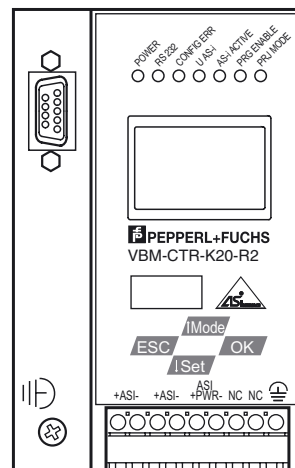## Dimensions

Electrical connection

At the cable for power supply no slaves or repeaters may be attached.
At the cable for AS-Interface circuit no power supplies or further masters may be attached.

Indicating / Operating means

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical data

General specifications

AS-Interface specification		V3.0
PLC-Functionality		integrated
Earth fault detection	EFD	integrated
EMC monitoring		integrated
Diagnostics function		Extended function via display
UL File Number		E223772 only from low voltage, limited energy source (SELV or PELV) or listed Class 2 source

Functional safety related parameters

$MTTF_d$	180 a at 30 °C

Indicators/operating means

Display	Illuminated graphical LC display for addressing and error messages
LED RS 232	interface in operation; LED green
LED AS-i ACTIVE	AS-Interface operation normal; LED green
LED CONFIG ERR	configuration error; LED red
LED PRG ENABLE	autom. programming; LED green
LED POWER	voltage ON; LED green
LED PRJ MODE	projecting mode active; LED yellow
LED U AS-i	AS-Interface voltage; LED green
Switch SET	Selection and setting of a slave address
OK button	Mode selection traditional-graphical/confirmation
Button MODE	Mode selection PRJ-operation/save configuration/cursor
ESC button	Mode selection traditional-graphical/cancel

Electrical specifications

Insulation voltage	U_i	≥ 500 V
Rated operating voltage	U_e	from AS-Interface
Rated operating current	I_e	≤ 150 mA

Interface

Interface type	RS 232
Transfer rate	1200, 2400, 4800, 9600, 19200, 28800, 38400, 57600 or 11500 Bit/s , Automatic baud rate detection
Cable length	max. 30 m

Connection

AS-Interface	spring terminals, removable
Serial interfaces	9-pin Sub-D socket

Directive conformity

Electromagnetic compatibility	
Directive 2014/30/EU	EN 62026-2:2013

Standard conformity

Electromagnetic compatibility	EN 61326
Degree of protection	EN 60529:2000
AS-Interface	EN 62026-2:2013

Ambient conditions

Ambient temperature	0 ... 55 °C (32 ... 131 °F)
Storage temperature	-15 ... 75 °C (5 ... 167 °F)

Mechanical specifications

Degree of protection	IP20
Mass	460 g
Construction type	Low profile housing , Stainless steel

Approvals and certificates

UL approval	An isolated source with a secondary open circuit voltage of ≤ 30 V_{DC} with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed. UL mark does not provide UL certification for any functional safety rating or aspects of the device.

Notes

In an AS-Interface network only one device can be operated earth fault detection. If there are many devices in an AS-Interface network, this can lead to the earth fault monitoring response threshold becoming less sensitive.

Function

The VBM-CTR-K20-R2 is a stand-alone master in AS-Interface specification 3.0 with IP20. The construction type is especially suited for use in a switch cabinet.

Address allocation, acceptance of the target configuration and setting the baud rate can be managed via buttons. There are 7 LEDs on the front panel, showing the current status of the AS-Interface line.

In the AS-Interface master with graphical display the commissioning of the AS-Interface circuit and the test of the connected periphery devices can be separated completely overriding bus systems and from programming. The on-site operation via the graphic display and the four push buttons make it possible to show all of the functions on the display, which, for all other AS-Interface masters, are covered by the software AS-Interface control tools.

PLC Functionality

For PLC functionality the VBM-CTR-K20-R2 provides 16 kB program memory, 8 kB data memory, 1024 counters and 1024 timers. This is sufficient capacity to process all data arriving at the AS-Interface. The master can, therefore, also be operated as "stand-alone". The programm processing for 1000 word commands is approx. 2 ms. The programming language is based on STEP5. In the extended mode the AS-Interface CTRL functions (upload, download, start, stop, read and write marker) can be utilized.

Accessories

VAZ-SW-ACT32
Full version of the AS-I Control Tools including connection cable

USB-0,8M-PVC ABG-SUBD9
Interface converter USB/RS 232

Matching system components

VBG-RIO-KHD2-R2
Bus Coupler for Allen Bradley Remote I/O

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