5ACCIF01.ICAN-C01

1 General information

Interface option 5ACCIF01.ICAN-C01 is equipped with an RS232 and CAN bus master interface.

- 1x CAN bus master interface
- 1x RS232 interface
- Compatible with APC2100, APC2200, PPC2100, PPC2200

Information:

B&R makes every effort to keep this technical description as current as possible. The latest version of this technical description is available in PDF format on the B&R website (www.br-automation.com). For specifications that are not listed here, see the user's manual for the complete device being used.

2 Order data

Order number	Short description	Figure
	Interface options	
5ACCIF01.ICAN-C01	Interface card - 1x RS232 interface - 1x CAN interface - For APC2100/PPC2100/APC2200/PPC2200 - Only available with a new device - Customized -	
	Optional accessories	
	Terminal blocks	
0TB1210.3100	Connector 300 VDC - 10-pin female - Cage clamp terminal block - Protected against vibration by the screw flange	

3 Technical data

Information:

The following specified characteristic data, features and limit values are only valid for this accessory and may differ from those of the complete system. The data specified for the complete system applies to the complete system in which this accessory is installed, for example.

Order number	5ACCIF01.ICAN-C01
General information	
LEDs	L1
B&R ID code	0xFB10
Certifications	
CE	Yes
UL	cULus E115267 Industrial control equipment
HazLoc	cULus HazLoc E180196 Industrial control equipment for hazardous locations Class I, Division 2, Groups ABCD, T4 [1]
Interfaces	
COM	
Quantity	1
Type	RS232, modem not supported, not galvanically isolated
Variant	10-pin, male
UART	16550-compatible, 16-byte FIFO buffer
Max. baud rate	115 kbit/s
CAN	
Quantity	1
Controller	SJA1000
Variant	10-pin, male, galvanically isolated
Transfer rate	Max. 1 Mbit/s
Terminating resistor	
Type	Can be switched on and off with slide switch
Default setting	Off

Table 2: 5ACCIF01.ICAN-C01 - Technical data

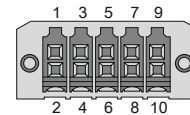| Order number	5ACCIF01.ICAN-C01
Electrical properties	
Power consumption	0.5 W
Operating conditions	
Pollution degree per EN 61131-2	Pollution degree 2
Ambient conditions	
Temperature	
Operation	-20 to 55°C
Storage	-20 to 60°C
Transport	-20 to 60°C
Relative humidity	
Operation	5 to 90%, non-condensing
Storage	5 to 95%, non-condensing
Transport	5 to 95%, non-condensing
Mechanical properties	
Weight	Approx. 25 g

Table 2: 5ACCIF01.ICAN-C01 - Technical data

1)   Yes, but applies only if all components installed in the complete system have this certification and the complete system bears the corresponding mark.

3.1 Serial interface COMA - Pinout

Serial interface COMA on the system unit is referred to as "IFx".

| Serial interface COMA - IFx[1][2]		
	RS232	
Type	RS232, modem not supported, not galvanically isolated	
Variant	10-pin, male	
UART	16550-compatible, 16-byte FIFO buffer	
Transfer rate	Max. 115 kbit/s	
Bus length	Max. 15 m	
Pin	**Pinout**	
1	-	
2	Shield	
3	-	
4	-	
5	DCD	
6	CTS	
7	RXD	
8	COM GND	
9	TXD	
10	DTR	

1)   The interfaces, etc. available on the device or module have been numbered for the purpose of clear differentiation. This numbering may deviate from the numbering used by the respective operating system, however.

2)   This interface (if available) is automatically enabled in BIOS as COMA with default addresses I/O:3F8h and IRQ:4.

3.2 CAN bus interface - Pinout

The CAN bus interface on the system unit is referred to as IFx.

CAN bus - IFx[1][2]		
Variant	10-pin, male	
Galvanic isolation	Yes	
Transfer rate	Max. 1 Mbit/s	
Bus length	Max. 1000 m	
Pin	**Pinout**	
1	CAN L	
2	Shield	
3	CAN H	
4	CAN GND	
5	-	
6	-	
7	-	
8	-	
9	-	
10	-	
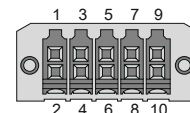
1)   The interfaces, etc. available on the device or module have been numbered for the purpose of clear differentiation. This numbering may deviate from the numbering used by the respective operating system, however.

2)   This interface (if available) is automatically enabled in BIOS as CAN with default addresses I/O:384h/385h and IRQ:10.

3.2.1 CAN driver settings

The baud rate can be set either with predefined values (CAN driver) or via the bit timing register.

Bit timing register 0	Bit timing register 1	Baud rate
00h	14h	1000 kbit/s
80h or 00h	1Ch	500 kbit/s
81h or 01h	1Ch	250 kbit/s
83h or 03h	1Ch	125 kbit/s
84h or 04h	1Ch	100 kbit/s
89h or 09h	1Ch	50 kbit/s

3.2.2 I/O address and IRQ

Resource	Default setting	Function
I/O address	384h (address register)	Defines the register number to be accessed.
	385h (data register)	Access to the register defined in the address register.
IRQ	IRQ:10	Interrupt

3.2.3 CAN - Bus length and cable type

The type of cable to be used depends largely on the required bus length and number of nodes. The bus length is determined by the transfer rate. Per CiA (CAN in Automation), the maximum bus length is 1000 meters.

The following bus lengths are permitted at a maximum permissible oscillator tolerance of 0.121%:

Bus length[1]	Transfer rate
≤1000 m	Typ. 50 kbit/s
≤200 m	Typ. 250 kbit/s
≤100 m	Typ. 500 kbit/s
≤20 m[2]	Typ. 1 Mbit/s
≤15 m[3]	
≤20 m	Typ. 1 Mbit/s
≤15 m	

1) The specified cable length is only valid with the values specified in "CAN driver settings". Cable lengths otherwise depend on the values in the bit timing register, cable quality and number of nodes.
2) For CAN interfaces without galvanic isolation and 5ACCIF01.ICAN-000.
3) For CAN interfaces with galvanic isolation.

Preferably, the cable material used should have the following properties or deviate only slightly from them in order to achieve an optimal transfer rate.

CAN cable		Property
Signal line		
	Cable cross section	2x 0.25 mm² (24AWG/19), tinned copper stranded wire
	Wire insulation	PE
	Conductor resistance	≤82 Ω/km
	Stranding	Wires stranded in pairs
	Shield	Pair shielding with aluminum foil
GND		
	Cable cross section	1x 0.34 mm² (22AWG/19), tinned copper stranded wire
	Wire insulation	PE
	Conductor resistance	≤59 Ω/km
Outer jacket		
	Material	PUR compound
	Properties	Halogen-free
	Cable shield	Tinned copper wire

3.2.4 Terminating resistor

A terminating resistor is integrated on the interface option. It is switched on or off for the CAN bus interface with a switch. LED status indicator L1 indicates the current state:

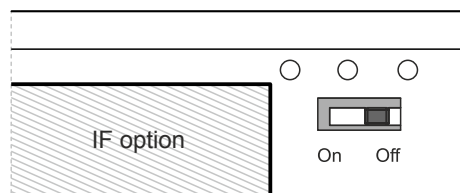- ON: Activated
- OFF (default): Switched off

Figure 1: (symbolic image)

3.3 Shielding

For the interfaces on the 10-pin female connector, the shield of the interfaces can be connected to pin *Shield* (pin 2) of the female connector.

In addition, there is a functional ground connection on the interface cover of the system unit that can also be used for the cable shields.

In addition, there is a functional ground connection on the interface cover of the system unit and a screw point for cable shields that can also be used for the shielded cables.

3.4 LED status indicator

An LED is integrated on the interface option above the terminating resistor.

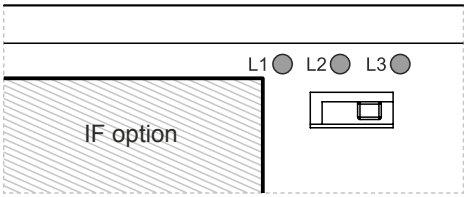| LED status indicator				
LED	**Color**	**Status**	**Explanation**	
L1	Yellow	On	The CAN bus terminating resistor is switched on.	
		Off	The CAN bus terminating resistor is switched off.	
L2	-	-	-	
L3	-	-	-	
-				

Figure 2: (symbolic image)

3.5 Firmware

In order to ensure the functionality of the interface option, at least the following firmware version (MTCX) must be installed on the PC:

- Automation PC 2100: V1.07
- Automation PC 2200: V1.02
- Panel PC 2100: V1.07
- Panel PC 2200: V1.02

The firmware can be downloaded from the B&R website (www.br-automation.com).

For information about upgrading the firmware, see section "Firmware upgrade" in the respective user's manual.