

Analogue input units

Type	Description	Order code
ICSE 08 A6	Eight analogue inputs 0 ...+ 10V, 0 ...20mA, 4 ...20mA 8 bits resolution 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 334 5601 R1012 FPR 334 5601 R0014 FPR 334 5601 R0016
ICST 08 A8	Eight analogue inputs PT100 8 bits resolution range of temperature : -50 °C ... +150 °C (-58 °F ... +302 °F) 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 333 5801 R1012 FPR 333 5801 R0014 FPR 333 5801 R0016
ICST 08 A9	Eight analogue inputs PT100 8 bits resolution range of temperature : 0 °C ... +300 °C (-32 °F ... +572 °F) 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 333 5901 R1012 FPR 333 5901 R0014 FPR 333 5901 R0016
ICSE 08 B5	Eight analogue inputs -10V ...+10V, -20 ...+20mA, 4 ...20mA 12 bits resolution 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 334 6501 R1012 FPR 334 6501 R0014 FPR 334 6501 R0016
ICDT 08 B5	Eight analogue inputs -10V ...+10 V, -5 ...+5 V, -500... + 500 mV, -50 ...+50 mV 0...20 mA, 4 ...20 mA 12 bits resolution configurable for temperature sensors or as voltage inputs 24 VDC power supply	GJR 525 1666 R1001

Analogue output unit

ICSA 04 B5	Four analogue outputs -10V ...+10V, 0 ...+20mA, 4 ...20mA 12 bits resolution 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 334 1501 R1042 FPR 334 1501 R0044 FPR 334 1501 R0046
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Analogue input/output units

ICSM 06 A6	Input/output unit, four inputs for 0 ...+ 10V, 0...20mA, 4...20mA signals 8 bits resolution, non-isolated two outputs for -10V ...+10V, 0...20mA, 4 ...20mA signals 8 bits resolution, non-isolated 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 335 0601 R1062 FPR 335 0601 R0064 FPR 335 0601 R0066
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High speed counter unit		
Type	Description	Order code
ICSF 08 D1	encoder unit or 3 independant up/counter 2 threshold detections counter preset Max. frequency 50kHz 7 transistor outputs 24 V d.c. 300mA 4 binary inputs 24 V d.c. Integral 5V, 15V, 24V power supply for encoder 24 VDC power supply 120 VAC power supply 230 VAC power supply	FPR 332 3101 R1012 FPR 332 3101 R0014 FPR 332 3101 R0016
Remote display unit		
TCAD	Display unit 2 lines, 32 characters 127 messages programmable + 1 backgroung message buzzer (programmable) key function embedded variables 24 VDC power supply	FPR 320 3526 R1002
CS31 Bus units		
NCB	CS31 bus amplifier up to 2km 24 VDC power supply	FPR 347 1200 R0006
NCBR	CS31 bus amplifier with redundancy amplification up to 2km 24 VDC power supply	FPR 347 1300 R0006
Robot coupler unit		
ICBG 32 L7	Robot coupler connect ABB S3 robot to CS 31 bus 16 inputs, 16 outputs for communication supply from robot rack	FPR 333 0705 R0321
ICBG 64 L7	Robot coupler connect ABB S3 robot to CS 31 bus 32 inputs, 32 outputs for communication supply from robot rack	FPR 333 0705 R0641

Communication units

Type	Description	Order code
07 KP 90	CS 31 RCOM coupler used with 07 KT 92, 07 KR 91 R 0252, 07 KT 93 1 serial interface EIA RS232 24 VDC power supply	GJR 525 1000 R0202
07 KP 92	CS 31 coupler used with 07 KT 92, 07 KR 91 R 0252, 07 KT 93 Freely programmable in C language, stored in flash EPROM 2 serial interfaces EIA R232, EJA RS422 or EIA RS485 24 VDC power supply	GJR 525 1500 R101

Accessories

Type	Description	Order code
NCC 232	RS 232/RS 232 isolated converter 24 VDC power supply	FPR 347 1000 R0006
NCC 485	RS 232/RS 485 isolated converter 24 VDC power supply	FPR 347 1100 R0006
TCZ	Handheld terminal	FPR 320 0002 R1001
TCZ - adapter	Adaptor "Off-line"	FPTN 404 958 R0002
Cable Sub D9	For programming and test	FPTN 404 948 R0002
Cable Sub D25	For programming and test	FPTN 404 948 R0005
Cable Sub D9	For ASCII or MODBUS communication	FPTN 404 948 R0006
Cable Sub D25	For ASCII or MODBUS communication	FPTN 404 948 R0001
Cable for communication	TCZ adaptor/printer 07 DR 12	FPTN 404 948 R0004

Spare parts

Lithium battery for UCZA	FPTN 404 949 R0001
Lithium battery for TCZ	FPTN 404 949 R0002
5V battery for external power supply of TCZ	FPTN 404 949 R0003
Spare cable to connect TCZ to 07 KR 91 or UCZA/UCZB or PCZB or CS 20	FPTN 404 975 R0001

2.8 General characteristics

The CS 31 system is developed according to the international standard IEC 1131-2.

● Operating conditions

- Temperature :
 - operation 0 °C ... + 55 °C 32 ... 131 °F
 - storage - 40 °C ... + 75 °C - 40 ... 167 °F
 - transport - 25 °C ... + 75 °C - 13 ... 167 °F
- Humidity acc. to DIN 40040 class F without condensation :
 - average over the year 75 %
 - up to 30 days of a year 95 %
 - on the other days with regard to the average of the year, occasionally 85 %
- Air pressure :
 - operation 800 hPa (2000 m)
 - storage 660 hPa (3500 m)

● Mechanical data

- degree of protection IP 20
- housing UL94 V0
UL94 V1 for central units serie 90,
coupler 07KPxx and units ICDxx
- vibration each of three mutually
perpendicular axes 10 Hz ... 57 Hz
continuous : 0.0375 mm amplitude
occasional : 0.075 mm amplitude
57 Hz ... 150 Hz
continuous : 0.5 g acceleration
occasional : 1.0 g acceleration
- shocks occasional excursion to 15 g, 11 ms,
half sine in each of three mutually
perpendicular axes
- impact withstand test for units with a power supply > 30 VAC.
According to IEC 950 : a steel sphere
with a mass of 500 g is to fall freely
from a height of 1300 mm

● Mounting

- DIN rail 35 mm
- Screw mounting screws Ø 4 mm (M4)

● Serial interfaces

- for connection of the central unit to the remote units RS485,
using screw terminals
- for programming and setting parameter RS232-C
9 pole D connector
(female)

● Termination

- on the plug-in base ECZ use 60 °C copper conductor only
- Cross section :
- bus wiring terminal : twisted pair
AWG 24 (0.22 mm²) to AWG 18 (0.8 mm²)
 - earth terminal : rigid or stranded connector
AWG 10 (5.2 mm²)
 - Others terminals :
 - inputs : stranded connector
AWG 18 (0.8 mm²) to AWG 14 (2.1 mm²)
 - outputs : stranded connector
AWG 14 (2.1 mm²)
 - power supply
AWG 14 (2.1 mm²)
 - on removable terminal block (small section) 2.5 mm² (copper No. AWG14)
 - on removable terminal block (small section) 1.5 mm² (copper No. AWG16)
 - screws tightening torque (for guidance only) 7 lbs. inch (0.8 Nm)

● Supply connections

- 24 VDC (process and power supply) 24 VDC
(-20 %, +25 %, i.e. 19.2 ... 30V)
incl. ripple
ripple factor < 5 %
- 120 VAC power supply 120 VAC
(-15%, +10%, i.e. 102 ... 132V)
50 Hz or 60 Hz (± 5 %)
- 230 VAC power supply 230 VAC
(-15%, +10%, i.e. 195.5 ... 253V)
50 Hz or 60 Hz (± 5 %)

● Voltage drops and interruptions

- DC power supply interruption time 10 ms
time interval between two drops 1s
- AC power supply interruption time 0.5 period
time interval between two drops 1s

● Creepage distances and clearances

according to EN 61131-2 /
IEC1131-2

● Insulation test voltages

the insulation test voltages
are according to IEC 1131-2