ISYGLT®

Compact controller CC-02

General

The CC-02 compact controller is designed for performing smaller control tasks. In order to ensure optimal value for money, five modules of the ISYGLT system have been combined in one appliance:

• **1 x master module**

• **1 x DA module with 4 analogue outputs 0-10V or 1-10V**

• **1 x I/O module with 8 digital inputs and 8 relay outputs**

• **2 x TEMP-02 modules, each with 2 inputs for TF-E digital temperature sensor**

Master module in the compact controller

The compact controller controls data traffic on the subnet. All the data recorded by the modules e.g. (statuses of the modules' digital and analogue inputs, radio controlled clock times etc.) are transferred to the master via the BUS. The compact controller processes the data recorded using a user-specific program and returns data to the modules' outputs, (e.g. analogue and digital outputs) depending on the result of the processed input data. Data is transferred from the compact controller to the modules via the subnet (RS-485). The program for the compact controller is created by the user with "Programm-Designer" (ProgrammDesigner is the programming software for the ISYGLT BUS system), transferred to the compact controller via a programming interface (RS-232 cable or MODEM) and saved there in the program memory.

The program memory can be written as often as desired and even keeps its data in the event of an operating voltage failure. The input and output data is saved in an EEPROM backed RAM which allows you to restore the system to its last state in the event of a power failure depending on the application.

The range of functions is the same as the ISYGLT master module. The compact controller is equipped with a RS-485 subnet interface for connecting the max. 128 external modules. All the components of the ISYGLT system can be connected to these.
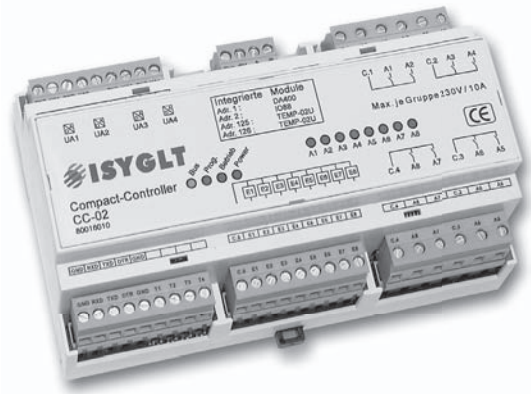
DA module

The analogue output module is fitted with 4 independent analogue outputs. The outputs have an output voltage range of 0-10V (1-10V) with 8-bit resolution.

The voltage of the outputs is galvanically separated from the subnet and the operating voltage. There is no potential separation between the four outputs themselves.

The outputs can carry a maximum current source or current sink load of 25mA. The load can be freely distributed over the individual outputs, i.e. one output can be operated with 22mA and the others each with 1mA. The range of functions is the same as the ISYGLT DA module.

Address 1 has already been assigned to the DA module in the compact controller.

I/O module

The I/O module (12-48V) is fitted with 8 galvanically separated inputs and outputs. The inputs can be controlled with either V AC or DC. Eight relays with make contact are available as outputs. The status of the outputs is displayed by LED. Address 2 has already been assigned to the I/O module in the compact controller.

TEMP-02

The temperature modules each read in two temperatures by means of the built-in temperature sensor TF-E. Addresses 125 and 126 have already been designated for the temperature modules in the compact controller.

Temperature values can be further processed in the compact controller to enable temperature-sensitive controls and adjustments. Areas of application include:

• Switch cabinet temperature monitoring
• Outside temperature recording
• Room temperature recording
• Heating, air-conditioning, ventilation control etc.

In- / Outputs
• 8 relay outputs max. 230V/10A, 2 contacts each on a common root node with 10A load capacity
• 8 optical coupler inputs 12-48V
• 4 analogue outputs 0-10V (1-10V)
• 4 inputs for digital temperature sensors
• RS-232 interface for MODEM/PC connection for programming

Function displays
• 1 red "power" LED indicates the operating voltage.
• 1 red "prog." LED indicates that programs are being transferred from the PC/modem to the compact controller and vice versa via the programming interface.
• 1 green flashing "operation" LED indicates the processor function. Steady flashing means "system o.k., however no DCF-77 time received".2x short flashes followed by a pause means "system o.k. and valid DCF-77 time received".
• 1 flashing yellow "Bus" LED indicates trouble-free data transfer on the subnet.
• 8 green "A1...A8" LEDs signalise the current output status. The output relay is activated when the respective LED lights up.
• 4 green LEDs indicate the temperature sensor function (beneath the terminals)

Connections
• 1 connection for the subnet (BUS A and B, RS-485)
• 1 connection for the operating voltage (Ub, 0V)
• 8 outputs (two each on a common connection)
• 8 inputs (on a common reference terminal)
• 4 temperature sensor inputs (antipole on common GND)
• 4 analogue outputs
• 1 connection for RS232
• 1 SUB-D RS-232 (behind cover)
• 4 GND connections

Design
• Light grey plastic casing, can be snapped onto 35 mm DIN rail mounting 9 separating units

Special function DIP switch (behind cover)
The DIP switches can be used for operating the outputs without a program in an emergency. Switch 1 = ON the analogue outputs emit a voltage of 10V. Switch 2 = ON All output relays are activated.
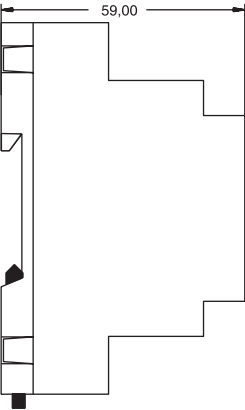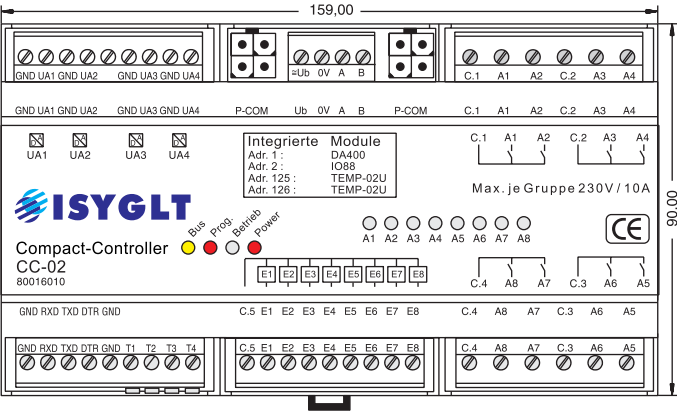
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Technical data

Type	Compact Controller CC-02
Art.-Nr.	80016010
Operating voltage	17V to 35V DC or 17V to 27V AC
Power consumption	When analogue outputs are at full load and all relays are activated 17V DC 380mA, 24V DC 270mA, 35V DC 180mA 17V AC 500mA, 24V AC 330mA, 27V AC 300mA
Inputs	Input current per input 5mA at 24V
Relay outputs	Caution: common root node! Relay contact 250V Load capacity: non-inductive 10A Bulbs 10A Fluorescent lamp uncompensated 6A Fluorescent lamp compensated 4A LV halogen via transformer 10A 1 phase motor 0.55kW Electronic ballast's manufacturer-specific starting current 100A <20ms !!The starting current of electronic ballasts is up to 100 times the nominal current!!
Analogue outputs	Output voltage 4 analogue channels 8-bit resolution 0-10V (1-10V) output current max. 25mA all 4 outputs together as current source or current sink.
Temperature sensor	4 inputs for sensor connection (TF-E) from -50° C to +105° C
Interface 1	RS-485 subnet max. 5.6V limited by Z-diodes
Interface 2	RS-232 interface for PC/modem connection program memory 64 kbytes (EPROM) program memory for user program: 8 kbytes optional 16 kbytes (EEPROM) programmable Data memory 1: 32 kbytes (RAM) battery backed, non-volatile Data memory 2: 8 kbytes (EEPROM) for switching times, non-volatile Data memory 3: 8 kbytes (EEPROM) for lighting, non-volatile data
Insulation voltage	300V (subnet/analogue outputs)
Dimensions	BxHxT 160x90x59mm (9 T)
Weight	500 g
Connection	Screw terminals 2,5mm² plug-in
Operating voltage	-10°C...+50°C
Storage temperature	-25°C...+70°C
Humidity	0...85 % r.F. non condensing
Protection class	IP 30
ESD immunity	Category 3 according to IEC-1000-4-2 (4 kV static)
EMC immunity	Use in typical industrial enviroment. Category 3 according to IEC-1000-4-4 (Test was carried out within a whole system)
CE mark	yes

Terminal assignment

Terminal 1	
$\cong$ Ub	Operating voltage
0V	0V operating voltage
A	Subnet (BUS A, RS-485)
B	Subnet (BUS B, RS-485)
Sh.	Remains free
C.5	Common for E1-E8
E1	Input 1
E2	Input 2
E3	Input 3
E4	Input 4
E5	Input 5
E6	Input 6
E7	Input 7
E8	Input 8
C.1	Common for A1/A2
A1	Output 1
A2	Output 2
C.2	Common for A3/A4
A3	Output 3
A4	Output 4
C.3	Common for A5/A6
A5	Output 5
A6	Output 6
C.4	Common for A7/A8
A7	Output 7
A8	Output 8
GND	(RS-232) mass
RxD	(RS-232) RxD received line
TxD	(RS-232) TxD transmitter line
DTR	(RS-232) DTR status line
GND	Ground for temperature sensors T1 to T4
T1	Temperature sensor 1
T2	Temperature sensor 2
T3	Temperature sensor 3
T4	Temperature sensor 4
UA1	Analogue-output 1
GND	GND to analogue-output 1
UA2	Analogue-output 2
GND	GND to analogue-output 2
UA3	Analogue-output 3
GND	GND to analogue-output 3
UA4	Analogue-output 4
GND	GND to analogue-output 4
	The GNDs of UA1-4 are linked to each other..

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View

Dimensions: 159,00 × 90,00, depth 59,00

Integrierte Module
Adr. 1 : DA400
Adr. 2 : IO88
Adr. 125 : TEMP-02U
Adr. 126 : TEMP-02U

Max. je Gruppe 230V / 10A

ISYGLT
Compact-Controller
CC-02
80016010

Wiring diagram

temperature sensors

ISYGLT compact-controller CC-02

Art.-Nr.: 80016010
max. 230V/10A per group of contacts

address f. DA-outputs	AA1.1 -> AA1.4
address f. IO-outputs	A2.1 -> A2.8
address f. IO-inputs	E2.1 -> E2.8
address f. temp.sensor T1-T2	AE125.1 AE125.2
address f. temp.sensor T3-T4	AE126.1 AE126.2

dispatching not changeable

4 analog outputs 0(1)-10V totaly max. 25mA

net 230V AC 0-10V
Dimmer

net 230V AC 1-10V
EVG controll.