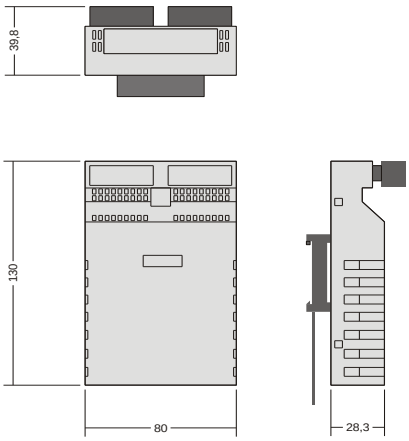
combo control

Data sheet combo master CM211 *V1.4*

symbolic illustration



combo control

- **16 digital In- or 16 digital Outputs**
- **4 analog In- and 4 analog Outputs**

Specifications	
Processor	32 Bit ARM9 RISC CPU 400 MHz
Current consuption without digital outputs	Fuse 0, 7A, nominal current: approx. 400 mA
Real-time clock	available
Memory	64 MByte DRAM, 128 MByte (optional 256 MByte) Flash 1 MByte SRAM battery-buffered,
Memory expansion	via USB-stick at the USB-Host interface via internal µSD Card, µSDHC Card u to 32 GB*
Buffering	persistent data in flash real-time clock and retain data in the battery buffered SRAM
Software	
Operating system	Microsoft Windows embedded CE 6.0 basic
PLC programming	CODESYS V2 or V3 (CS2 or CS3)
HMI programmierung	CODESYS V2 or V3 (TV) ELADESIGN (ED)
Interface	
Ethernet	1 x 10/100BASE-T, RJ45
Serial interfaces	1 x RS485 without galvanically isolation, RJ45 1 x RS232 without galvanically isolation, RJ45
Fieldbus interface	2 x CAN acc. ISO 11898 with galvanically isolation, 2 x RJ45
USB	1 x USB-2.0 Host type B mini 1 x USB-2.0 Device type B micro
Extension	1 x combo-extension
Functions	
Ethernet TCP-Modbus Client or Server	Software implementation on one of the Ethernet TCP/IP interfaces
EtherCAT Master	Software implementation on one of the Ethernet TCP/IP interfaces
CANopen	Software implementation on one of the CAN interfaces
Modbus RTU Slave or Master	Software implementation on one of the serial interfaces
Order-No.:	
23113.0002	combo - CM211/CS2/ED/ESB/CAN
23113.0003	combo - CM211/CS2/ED/ESB/CAN/SD
23113.0004	combo - CM211/CS2/CS3/TV/WV/CAN
23113.0005	combo - CM211/CS2/CS3/TV/WV/CAN/SD
23113.0007	combo - CM211/CS2/ED/CAN/CAN
23113.0008	combo - CM211/CS2/ED/CAN/CAN/SD
23113.0012	combo - CM211.1/CS2/ED/ESB/CAN

Environment / mechanical values	
Supply voltage	24 VDC (-15% / +20%) SELV with reverse polarity
Protection class	IP20, acc. EN 60529
Mounting	snap-in mounting on top-hat rail DIN50022
Outside dimensions in mm (w x h x d)	approx. 80 x 130 x 28,5
Weight app.	100 g
operating temperature	0 °C…50°C
Storage temperature	-20°C... 70°C
Relative humidity for operation	10%...85% non-condensing
Relative humidity for storage	5%...85% non-condensing
Diagnostic	
LED's	LEDs for operating- and status reports,LED Power, LED status I/O
Digital In- or Outputs	
Number	16
Input voltage	24 VDC without galvanically isolation, EN61131-2 Typ 3
Frequency max.	100 Hz
Over voltage	43 V
Dissipation loss	0,2 watt per input
Output voltage	24 VDC without galvanically isolation
Output current	0,5 A
Total current (per DIN)	max. 5 A (at 50% ED)
Ohmic load	10 W
Switching frequency Ohm/inductive	10 kHz
Short circuit - / therm. protection	Current limiting 0,7 A per channel/ 150°C fuse, 5 A for total voltage
Reverse polarity	yes
Cable length	600 m (unshielded), 1000 m (shielded)
Dissipation	0,2 Watt per output
Connection of digital in- and outputs	1 x socket and plug 18-pole; contact spacing 3,5 mm, conductor crosssection up to 0,2 … 1,0 mm², 5 A Weidmüller : B2CF 3.50/18
Analog Inputs	
Number	4
Analog input types of sensors :	PT100 2-wire Voltage : – 10...+ 10 VDC Current : 0...+ 20 mA
Conversion time	10 ms of all analog channels
Current measuring range	0(4)…20 mA
Voltage measuring range	-10…10 V
Temperature measuring range	-30°C…500°C PT100
AD converter analog input	12-bit
Conversion time	100 ms of all analog channels

Analog Output	
Number	4
AD converter analog output	12-bit
Analog output types of sensors :	Voltage : 0...10 VDC, or -10 ... +10 VDC
	1 x socket and plug 18-pole; contact spacing 3,5 mm, conductor crosssection 0,2 … 1,0 mm², 5 A Weidmüller : B2CF 3.50/18
Power range	
Ramps	Linear; sin ; sin², sin³ and log
Regulation	Stepper motor-controls
Motor selection	Stepping motors with stepper amplifier (SA) power stages
Standards	
Produktnorm	
EN61131-2	Programmable controllers - Part 2: Equipment requirements and tests (IEC 61131-2:2007); German version EN 61131-2:2007
Immunity and interference	
EN61000-6-2	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Emission standard for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005
EN61000-6-4	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments (IEC 61000-6-4:2006 + A1:2010); German version EN 61000-6-4:2007 + A1:2011
Umweltprüfungen	
EN60068-2-6	Environmental influences - part 2-6: Test procedure - test Fc: Schwingen (sinusoidal) (IEC 60068-2-6:2007); German version EN 60068-2-6:2008
EN60068-2-27	Environmental influences - Part 2-27: Test procedure - Test Ea and Guidance: Schocken (IEC 60068-2-27:2008); German version EN 60068-2-27:2009
Accessories	
240020903	Y-Adapter for combo control RS232/RS485, RJ45/2xSubD9, grey
240020906	Y-Adapter RJ45 St.->2xRJ45 Bu.;0,15m; grey
240020501	CAN/ESB terminating resistor for combo control, green
240020205	RJ45/RJ45, 0,3 m, green
240020204	RJ45/RJ45, 2,0 m, green
240020203	RJ45/RJ45, 2,0 m, yellow
26111.0000	SA 102 stepper amplifier 24 VDC, 2,5 A
Applications	
	in many industries such as plastics, medical- and automation technology

Illustrations, descriptions, dimensions and specifications correspond to the circumstances or intentions at the time of printing this brochure. Changes of any kind, especially those resulting from technological progress, economic performance or a similar will be without notice .The external interconnection of equipment will be on your own responsibility

*Remark: The use of standard memory card (e.g. CF-cards is generally possible. Anyhow elrest GmbH does not take any responsibility thereby.

E601203-1.4

elrest Automationssysteme GmbH • Leibnizstraße 10 • 73230 Kirchheim unter Teck • Tel.: +49 (0) 7021 92025-0

© 2015 • www.elrest.de • All rights reserved