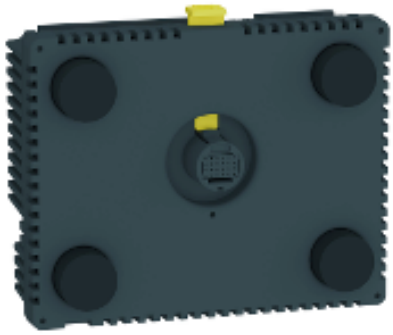
Product data sheet
Characteristics

HMISBC
Controller, Harmony SCU, Rear Module panel, Dig 8 inputs/8 outputs +Ana 4 In/2 Out



Main

Range of product	Harmony SCU
Product or component type	Controller
Device presentation	Basic element

Complementary

Supply	External source
[Us] rated supply voltage	24 V (20.4…28.8 V)DC
Immunity to microbreaks	10 Ms
Inrush current	30 A
Power consumption in W	15 W
Local signalling	No indicator
Number of pages	Limited by internal memory capacity
Operating system	Harmony
Processor name	CPU RISC
Memory description	Flash NAND, 128 MB Internal data storage FRAM, 128 kB Application run DRAM, 128 MB
Integrated connection type	1 serial link - RJ45 - RS232/RS485 (rate: <= 115.2 kbits/s) 1 Ethernet TCP/IP - RJ45 1 USB 2.0 type mini B 1 USB 2.0 type A CANopen master bus - SUB-D 9
Realtime clock	Built-in
Downloadable protocols	Modbus CANopen Modbus TCP/IP
Fixing mode	By 1 nut - diameter: Ø 22 mm, mounting on: 1...6 mm thick panel
Enclosure material	PC/PBT
Shock resistance	147 m/s² for 11 ms (on DIN rail) conforming to IEC 60068-2-27 294 m/s² for 6 ms (on panel mounting) conforming to IEC 60068-2-27
Vibration resistance	+/- 3.5 mm (f = 5…9 Hz) conforming to IEC 60068-2-6 1 gn (f = 9…150 Hz) conforming to IEC 60068-2-6

Electromagnetic compatibility	Electrostatic discharge immunity test - test level: 8 kV (air discharge) conforming to IEC 61000-4-2 Electrostatic discharge immunity test - test level: 6 kV (contact discharge) conforming to IEC 6100 Susceptibility to electromagnetic fields - test level: 10 V/m (80 MHz...3 GHz) conforming to IEC 61 Electrical fast transient/burst immunity test - test level: 2 kV (power lines) conforming to IEC 6100 Electrical fast transient/burst immunity test - test level: 1 kV (between analogue I/O and operating Electrical fast transient/burst immunity test - test level: 2 kV (relay wires) conforming to IEC 61000 Electrical fast transient/burst immunity test - test level: 1 kV (Ethernet line) conforming to IEC 610 Electrical fast transient/burst immunity test - test level: 1 kV (COM line) conforming to IEC 61000- Electrical fast transient/burst immunity test - test level: 1 kV (CAN line) conforming to IEC 61000-4 Surge immunity test - test level: 2 kV (power supply (common mode)) conforming to IEC 61000-4- Surge immunity test - test level: 1 kV (power supply (differential mode)) conforming to IEC 61000- Surge immunity test - test level: 1 kV common mode (digital I/O) conforming to IEC 61000-4-5 Surge immunity test - test level: 0.5 kV differential mode (digital I/O) conforming to IEC 61000-4-5 Conducted RF disturbances - test level: 10 V (0.15...80 MHz) conforming to IEC 61000-4-6 Conducted emission - test level: 150 kHz...30 MHz conforming to EN 55011 Radiated emission - test level: 30 MHz...1 GHz conforming to EN 55011
Discrete input number	2 for fast input (normal mode) conforming to IEC 61131-2 Type 1 6 for digital input conforming to IEC 61131-2 Type 1
Discrete input voltage	24 V DC, discrete input logic: sink or source (positive/negative)
Number of common point	1 for fast input (HSC mode) 1 for digital input
Discrete input current	7.83 MA for fast input 5 MA for digital
Input impedance	2.81 kOhm 4.7 kOhm
Sensor power supply	15…28.8 V DC >= 15 V, current (state 1): >= 5 mA <= 5 V, current (state 0): <= 1.5 mA 15…28.8 V DC >= 15 V, current (state 1): >= 2.5 mA <= 5 V, current (state 0): <= 1 mA
Configurable filtering time	0 ms no filter (none) 0.004...0.04 ms bounce filter (latch/event and cumulative filter by step Nx0.5ms (64>=N>=2)) 3...12 ms integrator (none/run/stop)
Maximum input frequency	100 KHz for fast input (encoder mode) - control type A/B 100 KHz for fast input - control type single phase 100 KHz for fast input - control type pulse/direction
Maximum cable distance between devices	Shielded cable: <10 m for fast input Shielded cable: <100 m for digital input Unshielded cable: <50 m for digital input
Connection pitch	3.5 Mm
Overvoltage protection	With overvoltage protection
Isolation between channels and internal logic	500 V DC
Isolation between channels	None
Discrete output number	2 fast output (normal mode), output logic: source 6 digital output, output logic: source
Discrete output voltage	24 V DC (voltage limit: 19.2...28.8 V) with transistor discrete output(s) 24 V DC (voltage limit: 5...30 V) with relay discrete output(s) 220 V AC (voltage limit: 100...250 V) with relay discrete output(s)
Input/output number	2 for fast input, terminal(s): FI0...FI1 2 for fast output, terminal(s): FQ0...FQ1 6 for digital input, terminal(s): DI0...DI5 6 for digital output, terminal(s): DQ0...DQ5
Discrete output current	2 A 4 A), response time 5 ms with opening contact for digital output 2 A 4 A), response time 2 ms with closing contact for digital output 300 mA, response time 2 ms for fast output (normal mode) 50 mA, response time 2 ms for fast output (PWM or PTO mode)
Insulation resistance	> 10 MOhm between the I/O and internal logic > 10 MOhm between power supply and earth
Maximum output frequency	100 KHz for fast output (PTO mode) 1 KHz for fast output (PWM mode)
Absolute accuracy error	+/- 0.1 % of full scale cyclic ratio 1...99% for fast output (PWM or PTO mode) 1 % of full scale cyclic ratio 1...99% for fast output (PWM or PTO mode) +/- 5 % of full scale cyclic ratio 10...90% for fast output (PWM or PTO mode) +/- 10 % of full scale cyclic ratio 20...80% for fast output (PWM or PTO mode) +/- 15 % of full scale cyclic ratio 30...70% for fast output (PWM or PTO mode)
Analogue input number	2 for analog input 2 for RTDs
Analogue input range	0...20 mA/4...20 mA - resolution: 12 bits, input impedance: 250 Ohm (tolerance: +/- 1 %) -10...+10 V or 0...10 V - resolution: 12 bits + sign, input impedance: >= 1 MOhm

Analogue input type	RTD at - 200...600 °C - resolution: 16 bits temperature probe: Pt 100/Pt 1000 RTD at - 50...200 °C - resolution: 16 bits temperature probe: Ni 100/Ni 1000 RTD at - 200...760 °C - resolution: 16 bits (thermocouple J) RTD at - 240...1370 °C - resolution: 16 bits (thermocouple K) RTD at 0...1600 °C - resolution: 16 bits (thermocouple R) RTD at 200...1800 °C - resolution: 16 bits (thermocouple B) RTD at 0...1600 °C - resolution: 16 bits (thermocouple S) RTD at - 200...400 °C - resolution: 16 bits (thermocouple T) RTD at - 200...900 °C - resolution: 16 bits (thermocouple E) RTD at - 200...1300 °C - resolution: 16 bits (thermocouple N)
Analogue output number	2 resistive load for 12 bits + sign
Analogue output range	0...20 mA/4...20 mA (> 300 Ohm) for open-circuit -10...10 V/0...10 V (> 2 kOhm) for short-circuit
Height	50.65 Mm
Width	128 Mm
Depth	102 Mm
Net weight	0.398 Kg

Environment

Standards	UL 508 FCC Class A EN 61131-2 CSA C22.2 No 213 Class I Division 2 ANSI/ISA 12-12-01 IEC 61000-6-2
Product certifications	cULus 508[RETURN]cUL 1604 Class 1 Division 2[RETURN]C-Tick[RETURN]cULus CSA 22-2
Marking	CE
Ambient air temperature for operation	0…50 °C
Ambient air temperature for storage	-20…60 °C
Relative humidity	5…85 % without condensation
Operating altitude	<= 2000 m
Storage altitude	0…10000 M
Maximum pressure	800...1114 hPa
IP degree of protection	IP20 (rear panel) conforming to IEC 60529 IP65 (front panel) conforming to IEC 60529
NEMA degree of protection	NEMA 4X front panel
Pollution degree	2 conforming to IEC 60664
Environmental characteristic	Corrosive gas free

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	9.000 Cm
Package 1 Width	19.000 Cm
Package 1 Length	26.600 Cm
Package 1 Weight	870.000 G
Unit Type of Package 2	S03
Number of Units in Package 2	6
Package 2 Height	30.000 Cm
Package 2 Width	30.000 Cm
Package 2 Length	40.000 Cm
Package 2 Weight	5.660 Kg

Offer Sustainability

Recyclability potential, in %	7
Total lifecycle Carbon footprint	669 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	52.90949031223004
Carbon footprint of the manufacturing phase [A1 to A3]	53 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.06512995186967789
Carbon footprint of the distribution phase [A4]	0.1 kg CO2 eq.

Carbon footprint of the installation phase [A5]	0.17290381340244354
Carbon footprint of the installation phase [A5]	0.2 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	615.6461538461538
Carbon footprint of the use phase [B2, B3, B4, B6]	616 kg CO2 eq.
Mercury free	Yes
Sustainable packaging	No
Carbon footprint of the end-of-life phase [C1 to C4]	0.2353765025299272
Carbon footprint of the end-of-life phase [C1 to C4]	0.2 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Total lifecycle Carbon footprint	669
F-gas free	Only air and vacuum used for insulation / breaking, no F-gas including SF6
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
SCIP Number	Ce423001-d325-40b2-a371-05c3a126780a
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant By Exemption
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which
Halogen-free status	Product contains halogen above thresholds
PVC free	No
Silicone-free	No
End of life manual availability	End Of Life Information
Removable battery	User replaceable
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection and

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised