

# Product datasheet

Specifications



## 5.7" color touch controller panel - Dig 16 inputs/10 outputs

HMISCU8A5

### Main

Range of product	Harmony SCU
Product or component type	Small touch HMI controller
Display size	5.7 inch
Display type	with backlit LED colour TFT LCD
Touch panel	Analogue
Device presentation	Complete product

### Complementary

Display resolution	320 x 240 pixels QVGA
Backlight lifespan	50000 hours with 65000 colours
Brightness	16 levels via touch panel
View angle horiz x vert	60° left 60° right 40° top 60° bottom
Character font	Taiwanese (traditional Chinese) ASCII Korean Japanese (ANK, Kanji) Chinese (simplified Chinese)
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	24 W
Local signalling	No indicator
Number of pages	Limited by internal memory capacity
Software designation	SoMachine
Operating system	Harmony
Processor name	CPU RISC
Processor frequency	333 MHz
Memory description	Flash NAND, 128 MB Internal data storage FRAM, 128 kB Application run DRAM, 128 MB

<b>Integrated connection type</b>	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
<b>Realtime clock</b>	Built-in
<b>Downloadable protocols</b>	Modbus TCP/IP CANopen Modbus
<b>Fixing mode</b>	By 1 nut - diameter: Ø 22 mm, mounting on: 1...6 mm thick panel
<b>Enclosure material</b>	PC/PBT and PAA
<b>Shock resistance</b>	147 m/s <sup>2</sup> for 11 ms (on DIN rail) conforming to IEC 60068-2-27 294 m/s <sup>2</sup> for 6 ms (on panel mounting) conforming to IEC 60068-2-27
<b>Vibration resistance</b>	+/- 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
<b>Electromagnetic compatibility</b>	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 61000-4-2 Susceptibility to electromagnetic fields - test level: 10 V/m (80 MHz...3 GHz) conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test - test level: 2 kV (power lines) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 1 kV (between analogue I/O and operating voltage) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 2 kV (relay wires) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 1 kV (Ethernet line) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 1 kV (COM line) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 1 kV (CAN line) conforming to IEC 61000-4-4 Surge immunity test - test level: 2 kV (power supply (common mode)) conforming to IEC 61000-4-5 Surge immunity test - test level: 1 kV (power supply (differential mode)) conforming to IEC 61000-4-5 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
<b>Discrete input number</b>	2 for fast input (normal mode) conforming to IEC 61131-2 Type 1 14 for digital input conforming to IEC 61131-2 Type 1
<b>Discrete input voltage</b>	24 V DC, discrete input logic: sink or source (positive/negative)
<b>Number of common point</b>	1 for fast input (HSC mode) 2 for digital input
<b>Discrete input current</b>	7.83 mA for fast input 5 mA for digital
<b>Input impedance</b>	2.81 kOhm 4.7 kOhm
<b>Sensor power supply</b>	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
<b>Configurable filtering time</b>	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)
<b>Maximum input frequency</b>	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
<b>Maximum cable distance between devices</b>	Shielded cable: <10 m for fast input Shielded cable: <100 m for digital input Unshielded cable: <50 m for digital input
<b>Connection pitch</b>	3.5 mm
<b>Overvoltage protection</b>	With overvoltage protection
<b>Isolation between channels and internal logic</b>	500 V DC
<b>Isolation between channels</b>	None
<b>Discrete output number</b>	2 fast output (normal mode), output logic: source 8 digital output, output logic: source
<b>Discrete output voltage</b>	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)
<b>Input/Output number</b>	2 for fast input, terminal(s): FI0...FI1 14 for digital input, terminal(s): DI0...DI13 2 for fast output, terminal(s): FQ0...FQ1 8 for digital output, terminal(s): DQ0...DQ7

<b>Discrete output current</b>	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)
<b>Insulation resistance</b>	> 10 MOhm between the I/O and internal logic > 10 MOhm between power supply and earth
<b>Maximum output frequency</b>	100 kHz for fast output (PTO mode) 1 kHz for fast output (PWM mode)
<b>Absolute accuracy error</b>	+/- 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)
<b>Height</b>	129.4 mm
<b>Width</b>	163 mm
<b>Depth</b>	76.22 mm
<b>Product weight</b>	0.764 kg

## Environment

<b>Standards</b>	IEC 61000-6-2 ANSI/ISA 12-12-01 CSA C22.2 No 213 Class I Division 2 FCC Class A EN 61131-2 UL 508
<b>Product certifications</b>	cULus 508 KCC cULus CSA 22-2 No 142 GOST cUL 1604 Class 1 Division 2 C-Tick
<b>Marking</b>	CE
<b>Ambient air temperature for operation</b>	0...50 °C
<b>Ambient air temperature for storage</b>	-20...60 °C
<b>Relative humidity</b>	5...85 % without condensation
<b>Operating altitude</b>	<= 2000 m
<b>Storage altitude</b>	0...10000 m
<b>Maximum pressure</b>	800...1114 hPa
<b>IP degree of protection</b>	IP20 (rear panel) conforming to IEC 60529 IP65 (front panel) conforming to IEC 60529
<b>NEMA degree of protection</b>	NEMA 4X front panel
<b>Pollution degree</b>	2 conforming to IEC 60664
<b>Environmental characteristic</b>	Corrosive gas free

## Packing Units

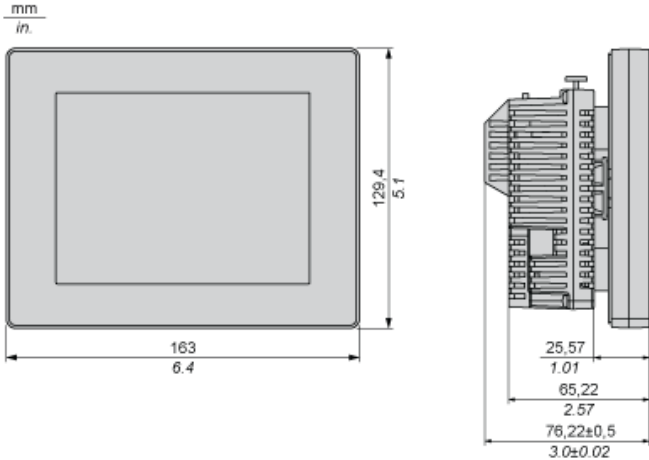
<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	11.0 cm
<b>Package 1 Width</b>	19.0 cm
<b>Package 1 Length</b>	26.7 cm
<b>Package 1 Weight</b>	1.391 kg
<b>Unit Type of Package 2</b>	BB1
<b>Number of Units in Package 2</b>	4

Package 2 Height	30.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	6.065 kg
Unit Type of Package 3	P12
Number of Units in Package 3	64
Package 3 Height	75.0 cm
Package 3 Width	80.0 cm
Package 3 Length	120.0 cm
Package 3 Weight	109.04 kg

## Offer Sustainability

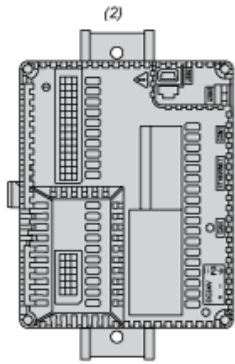
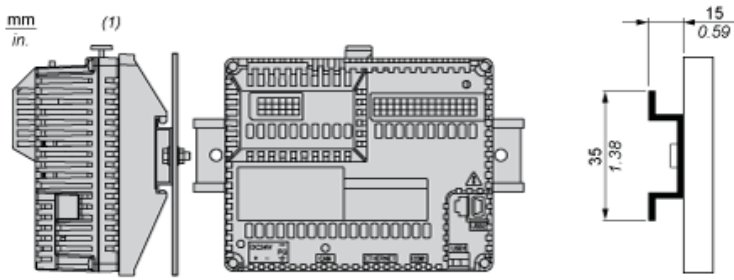
Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Upgradeability	<a href="#">Upgradeable through digital modules and upgraded components</a> 

Dimensions



## Recommended Mounting position

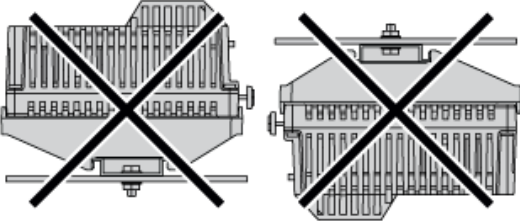
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- (1) Horizontal mounting
- (2) Vertical mounting

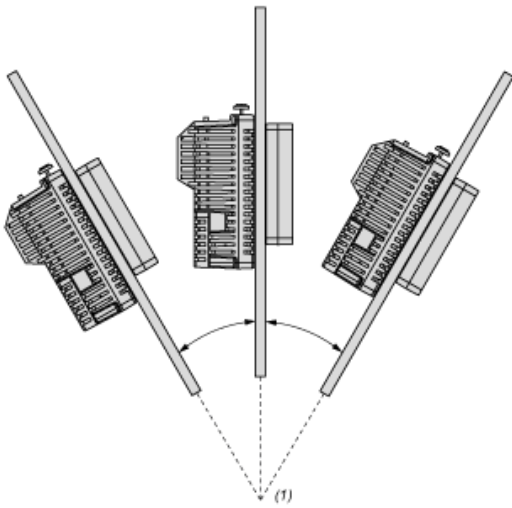
**No Recommended Mounting Position**

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## Mounting on a Slanted Panel

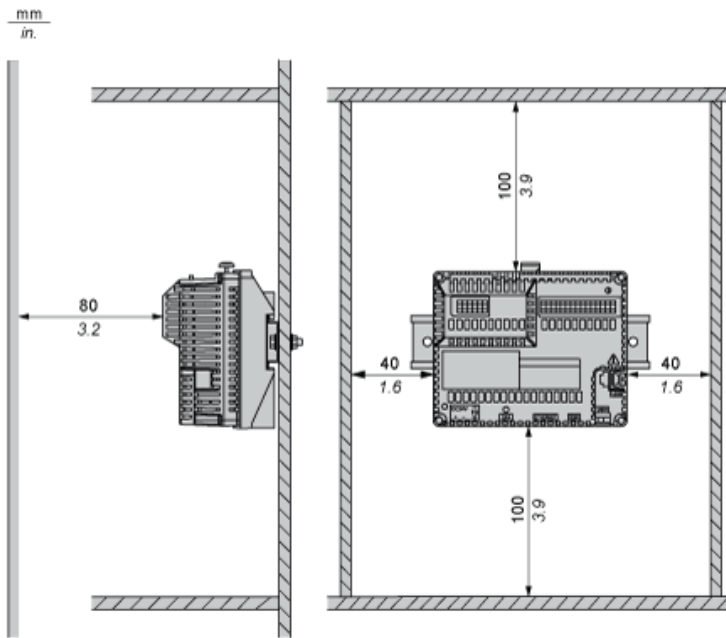
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(1) 30° or less



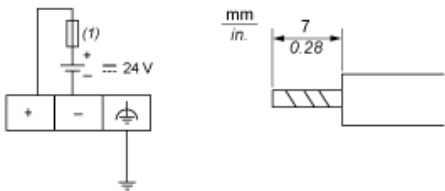
## Clearance



Keep adequate spacing for proper ventilation to maintain an ambient temperature between 0...50 °C (32...122 °F) for horizontal installation and 0...40 °C (32...104 °F) for vertical installation.

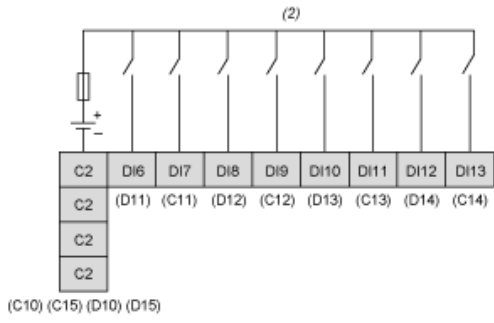
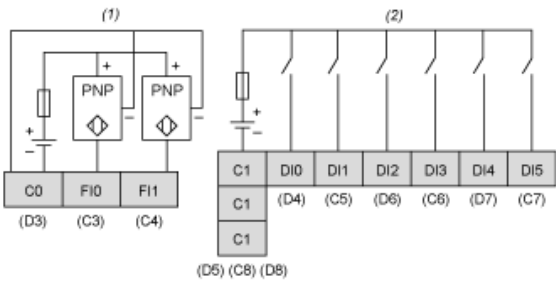
**Wiring Diagram**

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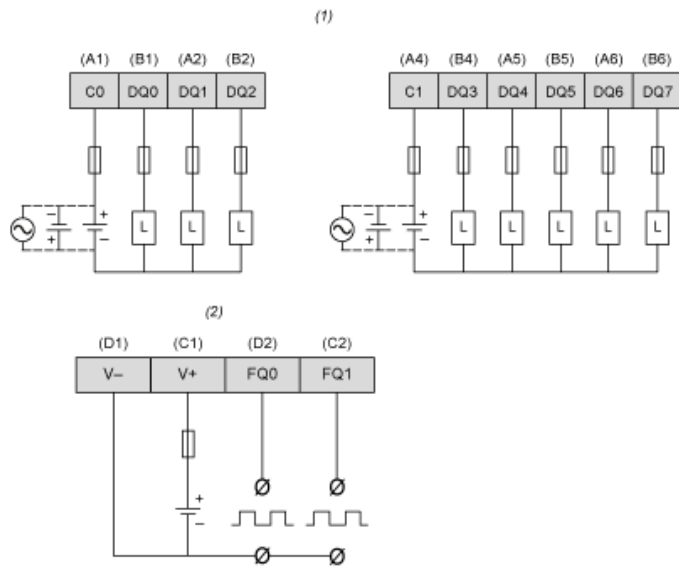
(1) Slow-blow 2A type T fuse

**Wiring Diagram of Digital Inputs**



- (1) HSC inputs with pin assignment of terminal blocks C,D.
- (2) Digital inputs with pin assignment of terminal blocks C,D.

**Wiring Diagram of Digital Outputs**



- (1) Digital outputs with pin assignment of terminal blocks A,B.
- (2) PWM outputs with pin assignment of terminal blocks C,D.
- (L) Load

**Recommended replacement(s)**