

# Product datasheet

Specifications



## 3"5 color touch controller panel - Dig 8 inputs/8 outputs +Ana 4 In/2 Out

HMISCU6B5

### Main

Range of product	Harmony SCU
Product or component type	Small touch HMI controller
Display size	3.5 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	Chinese (simplified Chinese) ASCII Taiwanese (traditional Chinese) Korean Japanese (ANK, Kanji)
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
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
<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 6 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) 1 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 6 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 2 for fast output, terminal(s): FQ0...FQ1 6 for digital input, terminal(s): DI0...DI5 6 for digital output, terminal(s): DQ0...DQ5
<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>Analogue input number</b>	2 for analog input 2 for RTDs
<b>Analogue input range</b>	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
<b>Analogue input type</b>	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)
<b>Analogue output number</b>	2 resistive load for 12 bits + sign
<b>Analogue output range</b>	0...20 mA/4...20 mA (> 300 Ohm) for open-circuit -10...10 V/0...10 V (> 2 kOhm) for short-circuit
<b>Height</b>	74.95 mm
<b>width</b>	128 mm
<b>Depth</b>	102 mm
<b>Net weight</b>	0.551 kg

## Environment

<b>Standards</b>	CSA C22.2 No 213 Class I Division 2 EN 61131-2 IEC 61000-6-2 ANSI/ISA 12-12-01 UL 508 FCC Class A
<b>Product certifications</b>	cULus CSA 22-2 No 142 cUL 1604 Class 1 Division 2 C-Tick GOST KCC cULus 508 UKCA UKEX
<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>	11.500 cm
<b>Package 1 Width</b>	18.600 cm
<b>Package 1 Length</b>	27.000 cm
<b>Package 1 Weight</b>	1.169 kg
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	4
<b>Package 2 Height</b>	30.000 cm
<b>Package 2 Width</b>	30.000 cm
<b>Package 2 Length</b>	40.000 cm
<b>Package 2 Weight</b>	5.153 kg
<b>Unit Type of Package 3</b>	P12
<b>Number of Units in Package 3</b>	64
<b>Package 3 Height</b>	73.000 cm
<b>Package 3 Width</b>	80.000 cm
<b>Package 3 Length</b>	120.000 cm
<b>Package 3 Weight</b>	93.448 kg

## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[How this information helps you >](#)

### Environmental footprint

Carbon footprint (kg.eq.CO2 per CR, Total Life cycle)	484
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Environmental Disclosure	<a href="#">Product Environmental Profile</a>
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## Use Better

### Materials and Substances

Packaging made with recycled cardboard	No
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Packaging without single use plastic	No
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EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
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SCIP Number	0fd86373-eda5-4dea-806b-9b9833dc484c
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REACH Regulation	<a href="#">REACH Declaration</a>
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China RoHS Regulation	<a href="#">China RoHS declaration</a>
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## Use Again

### Repack and remanufacture

Circularity Profile	<a href="#">End of Life Information</a>
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WEEE



The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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Take-back

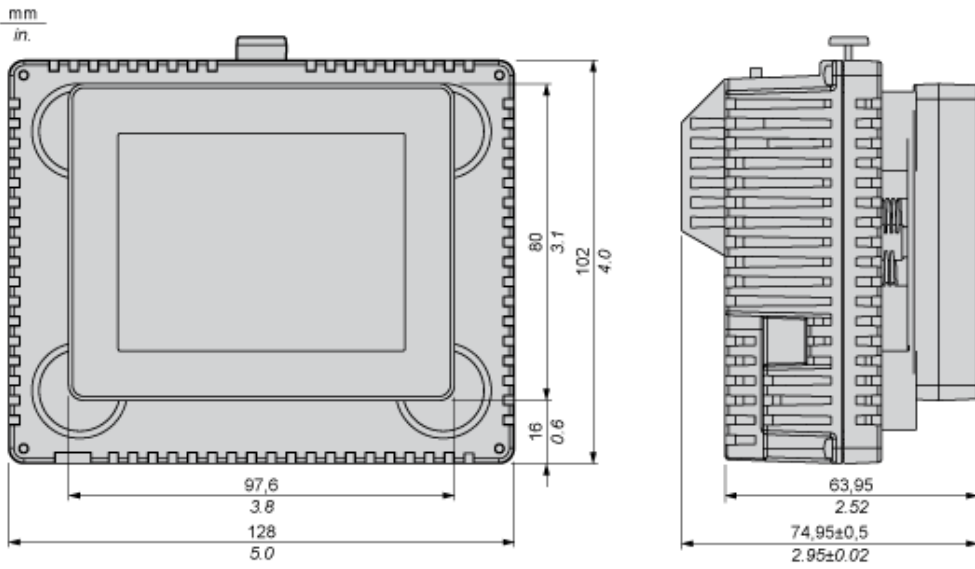
No

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Dimensions Drawings

Dimensions

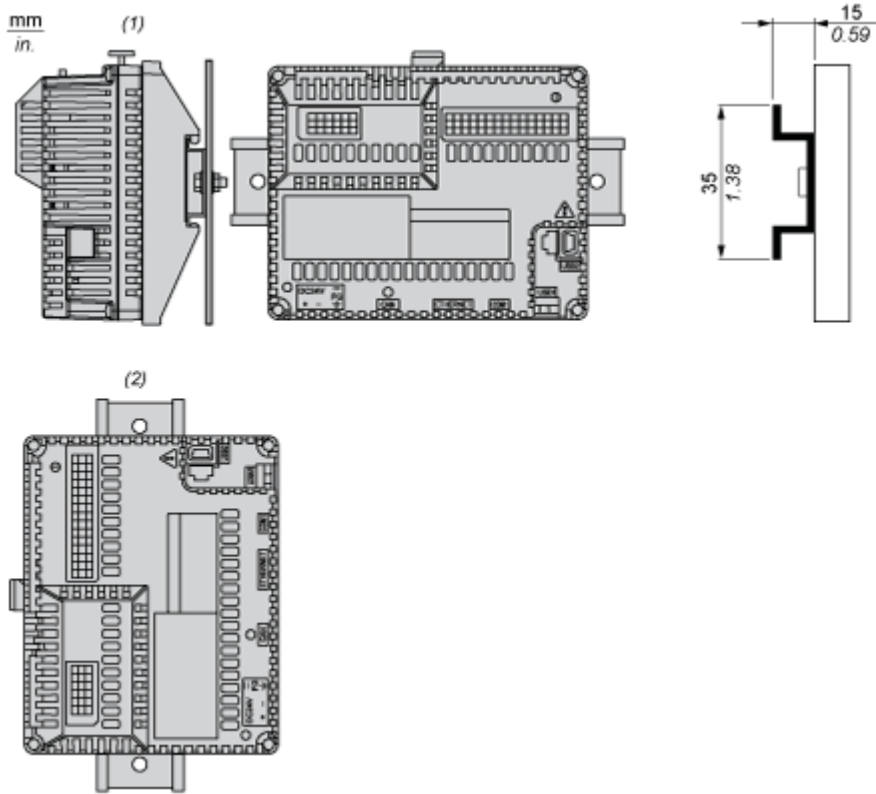
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Mounting and Clearance

Recommended Mounting position

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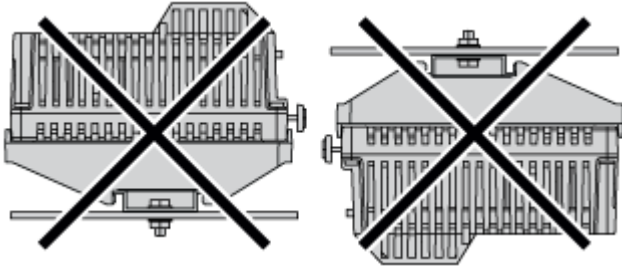


- (1) Horizontal mounting
- (2) Vertical mounting



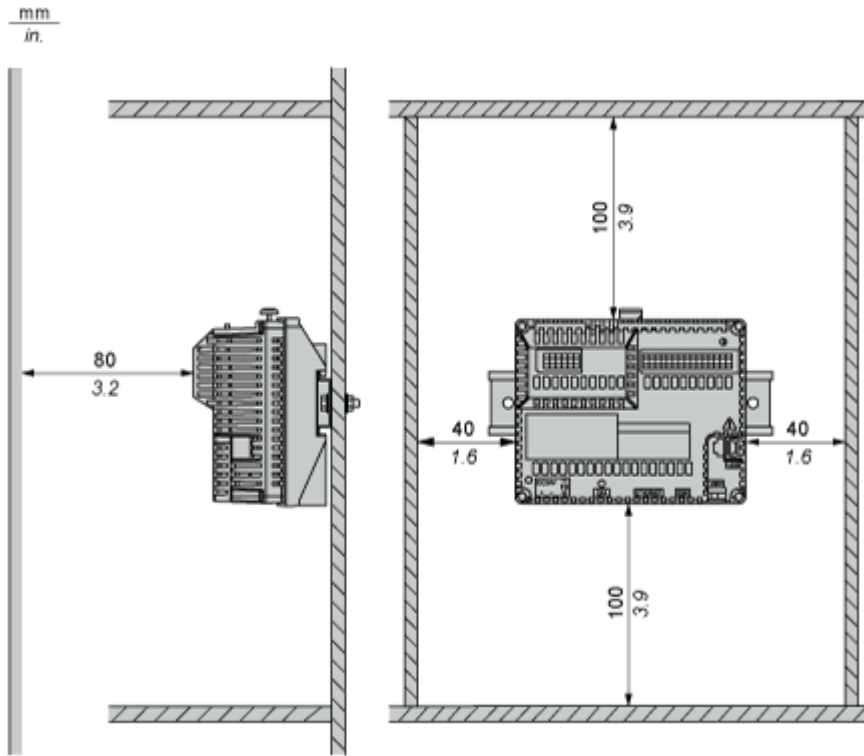
No Recommended Mounting Position

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Clearance

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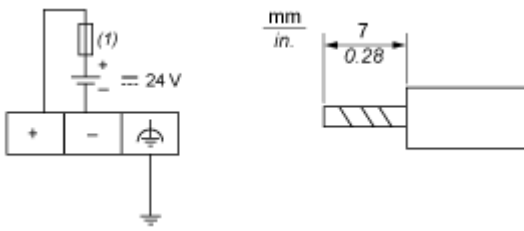


Keep adequate spacing for proper ventilation to maintain an ambient temperature between 0...50 °C (32...122 °F) for horizontal installation and 0...40 °C (32...104 °F) for vertical installation.

## Connections and Schema

### Wiring Diagram

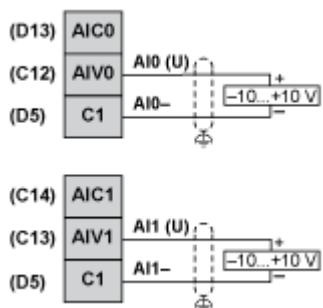
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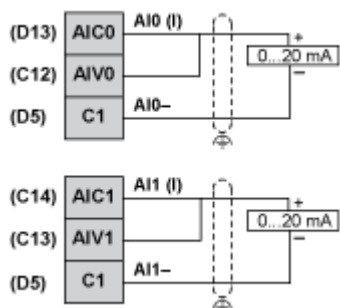
(1) Slow-blow 2A type T fuse

Wiring Diagram of the Analog Inputs and Analog Outputs

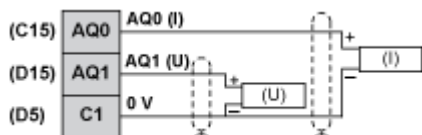
Voltage for Analog Inputs



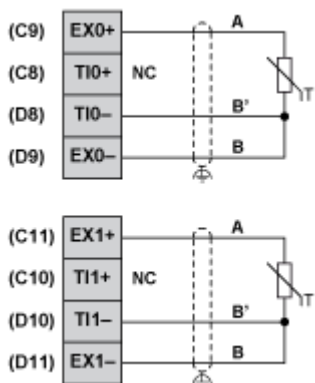
Current for Analog Inputs



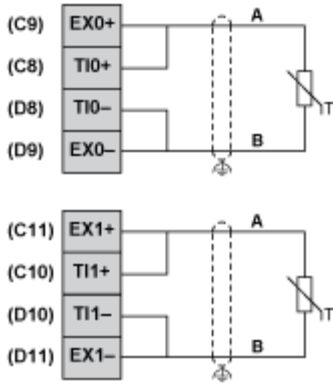
Voltage and Current for Analog Outputs



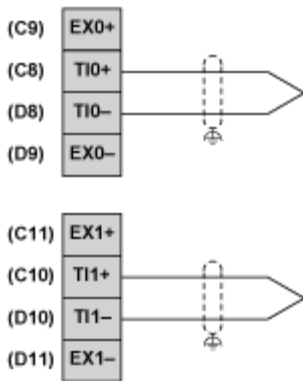
3 Wiring for Analog Inputs PT100



2 Wiring for Analog Inputs PT100

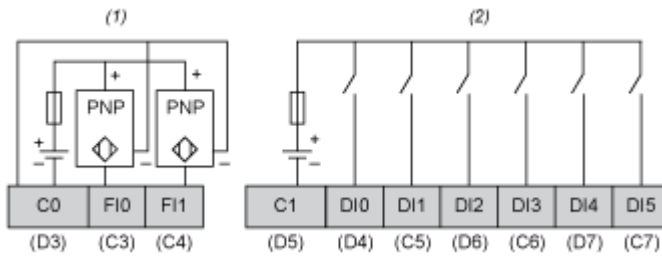


Thermocouple



Wiring Diagram of Digital Inputs

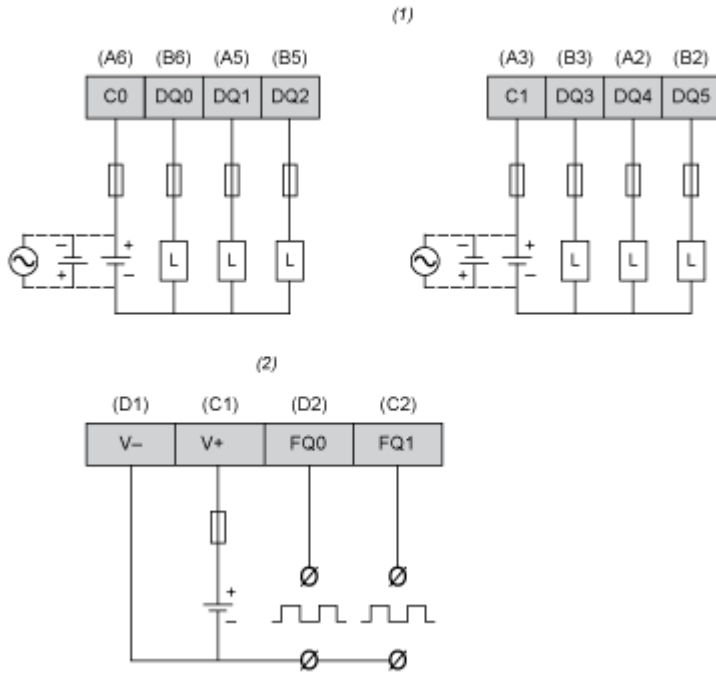
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- (1) HSC inputs with pin assignment of terminal blocks C,D.
- (2) Digital inputs with pin assignment of terminal blocks C,D.

Wiring Diagram of Digital Outputs

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

Image of product / Alternate images

Alternative

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