

SIMATIC IoT2000 input/output module, 5x DI 2x AI 2x DQ, ARDUINO Shield for SIMATIC IoT2040 and IoT2050



General information	
Product type designation	IOT2000
Installation type/mounting	
Mounting	On Arduino interface
Design	Plug-in card
Supply voltage	
Type of supply voltage	24 V DC
Digital inputs	
Number of digital inputs	5
Input voltage	
<ul style="list-style-type: none"> Type of input voltage for signal "0" for signal "1" 	DC < 5 V DC > 12 V DC
Input current	
<ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) for signal "1", typ. 	0.9 mA 2.1 mA
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> at "0" to "1", max. at "1" to "0", max. 	1.5 ms 1.5 ms
Digital outputs	
Type of digital output	transistor
Number of digital outputs	2
Short-circuit protection	Yes
Output voltage	
<ul style="list-style-type: none"> Type of output voltage permissible voltage at output, min. permissible voltage at output, max. 	DC 0 V 28.8 V
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	0.3 A
Parallel switching of two outputs	
<ul style="list-style-type: none"> for uprating 	No
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. with inductive load, max. 	10 Hz 0.5 Hz
Analog inputs	
Number of analog inputs	2
Input ranges	
<ul style="list-style-type: none"> Voltage Current 	Yes; 0 to 10V Yes; 0 to 20 mA

• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	9 bit
Integrated Functions	
Monitoring functions	
• Temperature monitoring	No
• Watchdog	No
• Status LEDs	No
• Fan	No
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±2 kV in accordance with IEC 61000-4-4, burst, length > 30 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-4:2007 +A1:2011
Degree and class of protection	
IP (at the front)	n.a.
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
KC approval	Yes; For use inside SIMATIC IoT2040
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, EN 61000-6-3:2007 +A1:2011, EN 61000-6-1:2007
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to 50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 200 Hz: 9.8 m/s ²
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Operating systems	
without operating system	Yes
Dimensions	
Width	75 mm
Height	57 mm
Depth	32 mm

