

Product datasheet

Specifications



standard ATV600 control unit, APM,
single drive, 380...480V

APM6A0CTLN401

Main

Range of product	Altivar Process Modular
Product or component type	Control module
Device short name	APM
IP degree of protection	IP00 conforming to IEC 61800-5-1 IP00 conforming to IEC 60529
Kit composition	control unit graphical display terminal Digi-Link cable cable 24 V cable for voltage measurement
Supply frequency	50...60 Hz - 5...5 %
Safety function	STO (safe torque off) SIL 3
Discrete input logic	16 preset speeds
Communication port protocol	Ethernet Modbus serial Modbus TCP

Complementary

[Us] rated supply voltage	380...480 V
Frequency resolution	Display unit: 0.1 Hz Analog input: 0.012/50 Hz
Connector type	RJ45 (on the remote graphic terminal) for Ethernet/Modbus TCP RJ45 (on the remote graphic terminal) for Modbus serial
Physical interface	2-wire RS 485 for Modbus serial
Transmission frame	RTU for Modbus serial
Transmission rate	10/100 Mbit/s for Ethernet IP/Modbus TCP 4.8, 9.6, 19.2, 38.4 kbit/s for Modbus serial
Exchange mode	Half duplex, full duplex, autonegotiation Ethernet/Modbus TCP
Data format	8 bits, configurable odd, even or no parity for Modbus serial
Type of polarization	No impedance for Modbus serial
Number of addresses	1...247 for Modbus serial
Method of access	Slave Modbus TCP
Supply	External supply for digital inputs: 24 V DC (19...30 V), <1.25 mA, protection type: overload and short-circuit protection Internal supply for reference potentiometer (1 to 10 kOhm): 10.5 V DC +/- 5 %, <10 mA, protection type: overload and short-circuit protection Internal supply for digital inputs and STO: 24 V DC (21...27 V), <200 mA, protection type: overload and short-circuit protection

Excluding VAT, FCA Jabal Ali & are subject to change – check with your local distributor.

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Local signalling	3 LEDs for local diagnostic 3 LEDs (dual colour) for embedded communication status 4 LEDs (dual colour) for communication module status
Width	230 mm
Height	678.3 mm
Depth	108 mm
Product weight	7.1 kg
Analogue input number	3
Analogue input type	AI1, AI2, AI3 software-configurable voltage: 0...10 V DC, impedance: 30 kOhm, resolution 12 bits AI1, AI2, AI3 software-configurable current: 0...20 mA/4...20 mA, impedance: 250 Ohm, resolution 12 bits
Discrete input number	8
Discrete input type	DI1...DI6 programmable, 24 V DC (≤ 30 V), impedance: 3.5 kOhm DI5, DI6 programmable as pulse input: 0...30 kHz, 24 V DC (≤ 30 V) STOA, STOB safe torque off, 24 V DC (≤ 30 V), impedance: > 2.2 kOhm
Input compatibility	DI1...DI6: discrete input level 1 PLC conforming to IEC 61131-2 DI5, DI6: discrete input level 1 PLC conforming to IEC 65A-68 STOA, STOB: discrete input level 1 PLC conforming to IEC 61131-2
Discrete input logic	Positive logic (source) (DI1...DI6), < 5 V (state 0), > 11 V (state 1) Negative logic (sink) (DI1...DI6), > 16 V (state 0), < 10 V (state 1) Positive logic (source) (DI5, DI6), < 0.6 V (state 0), > 2.5 V (state 1) Positive logic (source) (STOA, STOB), < 5 V (state 0), > 11 V (state 1)
Analogue output number	2
Analogue output type	Software-configurable voltage AO1, AO2: 0...10 V DC impedance 470 Ohm, resolution 10 bits Software-configurable current AO1, AO2: 0...20 mA, resolution 10 bits
Sampling duration	2 ms $\pm$ 0.5 ms (DI1...DI4) - discrete input 5 ms $\pm$ 1 ms (DI5, DI6) - discrete input 5 ms $\pm$ 0.1 ms (AI1, AI2, AI3) - analog input 10 ms $\pm$ 1 ms (AO1) - analog output
Accuracy	$\pm$ 0.6 % AI1, AI2, AI3 for a temperature variation 60 °C analog input $\pm$ 1 % AO1, AO2 for a temperature variation 60 °C analog output
Linearity error	AI1, AI2, AI3: $\pm$ 0.15 % of maximum value for analog input AO1, AO2: $\pm$ 0.2 % for analog output
Relay output number	3
Relay output type	Configurable relay logic R1: fault relay NO/NC electrical durability 100000 cycles Configurable relay logic R2: sequence relay NO electrical durability 100000 cycles Configurable relay logic R3: sequence relay NO electrical durability 100000 cycles
Refresh time	Relay output (R1, R2, R3): 5 ms ($\pm$ 0.5 ms)
Minimum switching current	Relay output R1, R2, R3: 5 mA at 24 V DC
Maximum switching current	Relay output R1, R2, R3 on resistive load, $\cos \phi = 1$: 3 A at 250 V AC Relay output R1, R2, R3 on resistive load, $\cos \phi = 1$: 3 A at 30 V DC Relay output R1, R2, R3 on inductive load, $\cos \phi = 0.4$ and L/R = 7 ms: 2 A at 250 V AC Relay output R1, R2, R3 on inductive load, $\cos \phi = 0.4$ and L/R = 7 ms: 2 A at 30 V DC
Isolation	Between power and control terminals

Environment

Insulation resistance	> 1 MOhm 500 V DC for 1 minute to earth
Noise level	69 dB conforming to 86/188/EEC
Power dissipation in W	Forced convection: 2390 W, switching frequency 2.5 kHz
Maximum THDI	< 48 % full load conforming to IEC 61000-3-12

Electromagnetic compatibility	Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4 1.2/50 µs - 8/20 µs surge immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-6
Pollution degree	2 conforming to IEC 61800-5-1
Vibration resistance	1.5 mm peak to peak (f= 2...13 Hz) conforming to IEC 60068-2-6 0.5 gn (f= 13...200 Hz) conforming to IEC 60068-2-6
Shock resistance	7 gn for 11 ms conforming to IEC 60068-2-27
Relative humidity	5...95 % without condensation conforming to IEC 60068-2-3
Ambient air temperature for operation	-10...40 °C (without derating) 40...50 °C (with derating factor)
Ambient air temperature for storage	-40...70 °C
Operating altitude	<= 1000 m without derating 1000...4800 m with current derating 1 % per 100 m
Environmental characteristic	Chemical pollution resistance class 3C3 conforming to IEC 60721-3-3 Dust pollution resistance class 3S3 conforming to IEC 60721-3-3
Standards	IEC 61800-3 IEC 61800-5-1 IEC 61000-3-12 IEC 60721-3 IEC 61508 IEC 13849-1
Product certifications	TÜV
Marking	CE

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	17.8 cm
Package 1 Width	28.7 cm
Package 1 Length	73.5 cm
Package 1 Weight	7.745 kg
Unit Type of Package 2	S06
Number of Units in Package 2	6
Package 2 Height	75 cm
Package 2 Width	60 cm
Package 2 Length	80 cm
Package 2 Weight	61.9 kg

Contractual warranty

Warranty (in months)	18
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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.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



Environmental footprint

Total lifecycle Carbon footprint	2 407 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	100 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.9 kg CO2 eq.
Carbon footprint of the installation phase [A5]	1 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	2 286 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	19 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile

Use Better



Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
SCIP Number	5b418692-6578-4a36-aac4-0bf9526de237
EU RoHS Directive	Compliant By Exemption
REACH Regulation	Reference contains Substances of Very High Concern above the threshold

Use Longer



Lifetime extension

Repair	No
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Use Again



Repack and remanufacture

Recyclability potential, in %	76
End of life manual availability	End of Life Information
Take-back	No