

Embedded Switch Technology

Technical Specifications - EtherNet/IP Taps

Attribute	1783-ETAP	1783-ETAP1F	1783-ETAP2F
Description	EtherNet/IP tap <ul style="list-style-type: none"> • 3 copper ports 	EtherNet/IP tap <ul style="list-style-type: none"> • 2 copper ports • 1 fiber port 	EtherNet/IP tap <ul style="list-style-type: none"> • 1 copper port • 2 fiber ports
Tap type	Copper	Fiber, single-port	Fiber, dual-port
Current consumption, max	125 mA @ 24V DC	200 mA @ 24V DC	260 mA @ 24V DC
DC power supply voltage rating	24V DC (20.4...27.6V DC) CL 2/SELV		
Isolation voltage	30V (continuous), basic insulation type, network channels to power and network channels to network channels		
	Type tested at 1250V DC for 60 s	Type tested at 853V AC for 60 s	
Power consumption, max	3 W	4.8 W	6.24 W
Power dissipation	3 W	4.8 W	6.24 W
Ethernet connections ⁽¹⁾	RJ45 connector according to IEC 60603-7, 2- or 4-pair Category 5e minimum cable according to TIA 568-B.1 or Category 5 cable according to ISO/IEC 24702		
DC power connections	One 0.33...3.3 mm ² (22...12 AWG) or two 0.33...1.3 mm ² (22...16 AWG) solid or stranded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max		
Torque	0.6...0.8 N•m (5...7 lb•in) on power connectors		
Wiring category ⁽²⁾	1 - on power ports 2 - on communication ports		
Enclosure type rating	None (open-style)		
North American temp code	T5	T4A	T4
IEC temp code	T5	T4	T4

(1) See [page 45](#) for recommended products.

(2) Use this conductor category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

Technical Specifications - EtherNet/IP Tap Fiber Connections

Attribute	1783-ETAP1F, 1783-ETAP2F
Fiber transceiver type	100Base-FX IEEE802.3u
Optical wavelength	1310 nm no cap
Transmitter launch power at Beginning of Life (BOL), min Allow -1 dB at End of Life (EOL)	-19 dBm into 62.5/125 μm fiber, N/A = 0.275 -22.5 dBm into 50/125 μm fiber, N/A = 0.20
Receiver sensitivity, min	-31.8 dBm
Receiver sensitivity, max	-14 dBm
Fiber channel power budget at rated BER (2 connected taps, either 1783-ETAP1F or 1783-ETAP2F)	12.8 dB for 62.5/125 μm multimode fiber 9.3 dB for 50/125 μm multimode fiber
Fiber connections	Glass 62.5/125 μm and 50/125 μm multimode fiber Simplex or duplex Jacket type and jacket diameter is dependent on connector selection Graded Index (GI) fiber Per IEC 60794-1-1, IEC 60793-2-10 category A1 fibers
Connector type	IEC 61754-20 LC connector, maximum insertion loss 0.75 dB per connection
Channel length, max	2 km (1.24 mi) ⁽¹⁾

(1) The channel (connectors and cable) must not exceed the allowable power budget.

Environmental Specifications - EtherNet/IP Taps

Attribute	1783-ETAP	1783-ETAP1F, 1783-ETAP2F
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold) IEC 60068-2-2 (Test Bd, Operating Dry Heat) IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-25...70 °C (-13...158 °F)	-25...60 °C (-13...140 °F)
Temperature, surrounding air, max	70° C (158 °F)	60° C (140 °F)
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold) IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat) IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40...85 °C (-40...185 °F)	
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5...95% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	5 g @ 10...500 Hz	
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g	
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	50 g	
Emissions CISPR11 (IEC 61000-6-4)	Class A	
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges	
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz	
EFT/B immunity IEC 61000-4-4	±4 kV at 5 kHz on power ports ±3 kV at 5 kHz on communication ports	
Surge transient immunity IEC 61000-4-5	±1 kV line-line (DM) and ±2 kV line-earth (CM) on power ports ±2 kV line-earth (CM) on communication ports	
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz	
Voltage variation IEC 61000-4-29	10 ms interruption on DC supply ports	

Certifications - EtherNet/IP Taps

Certification⁽¹⁾	1783-ETAP	1783-ETAP1F, 1783-ETAP2F
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.	
CE	European Union 2004/108/EC EMC Directive, compliant with: <ul style="list-style-type: none"> • EN 61326-1; Meas./Control/Lab., Industrial Requirements • EN 61000-6-2; Industrial Immunity • EN 61000-6-4; Industrial Emissions • EN 61131-2; Programmable Controllers (Clause 8, Zone A and B) European Union 2011/65/EU RoHS, compliant with: <ul style="list-style-type: none"> • EN 50581; Technical Documentation 	
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions	
Ex	European Union 94/9/EC ATEX Directive, compliant with: <ul style="list-style-type: none"> • EN 60079-15; Potentially Explosive Atmospheres, Protection “n” • EN 60079-0; General Requirements • II 3 G Ex nA IIC T5 X 	European Union 94/9/EC ATEX Directive, compliant with: <ul style="list-style-type: none"> • EN 60079-15; Potentially Explosive Atmospheres, Protection “n” • EN 60079-0; General Requirements • II 3 G Ex nA IIC T4 X
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: <ul style="list-style-type: none"> • Article 58-2 of Radio Waves Act, Clause 3 	
EtherNet/IP	ODVA conformance tested to EtherNet/IP specifications	

(1) When product is marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

Dimensions — EtherNet/IP Taps

This illustration shows dimensions for the 1783-ETAP tap. The dimensions for the 1783-ETAP1F and 1783-ETAP2F taps are the same.

