

# AT-SP10TW

## Twinax Direct Attach Cable

The AT-SP10TW SFP+ direct attach copper cable assembly is a low-cost alternative for short reach applications. The design allows for a serial data transmission up to 12Gbps in each direction. Additionally, the copper cable acts as a natural heat sink. The low power consumption assists in making the passive copper cable assembly an economic solution for within rack or rack-to-rack applications.

### Overview

These copper cables, known as “direct attach” or “Twinax,” connect from one SFP+ slot to another without the need for SFP+ transceivers. This is an economical solution for making short 10 Gigabit connections between products and most servers, network switches and monitoring equipment that have SFP+ slots.

The direct attach cable is terminated on both ends with mechanical connectors that plug directly into SFP+ slots in the same manner as SFP+ transceiver modules. The one, three and seven meter cables are all passive cables. They do not have signal buffers or amplifiers.

### Low Latency and Low Power

The Twinax cable with SFP+ type of connection is able to transmit at 10 Gigabit full-duplex speed. This setup offers up to 15 - 25 times lower transceiver latency than current 10GbE CAT6/CAT6a/CAT7 cabling systems at 0.1  $\mu$ s for Twinax with SFP+ versus 1.5 - 2.5  $\mu$ s for current 10GbE specification. The power draw of Twinax with SFP+ is around 0.1 Watts compared to the typical 4–8 Watts for current 10GbE.



## Key Features

- ▶ SFF-8431 MSA compliant
- ▶ Broadband serial data rate operation: 10Mbps to 12Gbps
- ▶ Power level I: 15 mW per cable end
- ▶ 100 Ohm differential impedance
- ▶ Retractable pin latch
- ▶ EEPROM signature
- ▶ Pull to release latch design
- ▶ 360° cable braid crimp
- ▶ Enhanced EMI skirt design
- ▶ Linear design for use with EDCs
- ▶ AC-coupled inputs and outputs
- ▶ 30AWG to 24AWG cable available
- ▶ Two year warranty\*

\* Warranties may be region specific, for local warranty periods please visit the support section on [alliedtelesis.com](http://alliedtelesis.com) or contact your local sales office

MODEL	MEDIA TYPE	TRANSMIT		
		MAXIMUM DATA RATE	OPERATING TEMPERATURE	DISTANCE
AT-SP10TW	Twinax direct attach	10.3Gbps	0°C to 70°C (32°F to 158°F)	1, 3 or 7 m

### Specifications

#### Environmental

Operating temperature:	0°C to 70°C (32°F to 158°F)
Storage temperature:	-40°C to 85°C (-40°F to 185°F)
Relative humidity:	0 to 85% non-condensing

#### Power

Consumption:	<1W
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### Electrical Characteristics

Parameter	Symbol	Min.	Typ	Max.
Input voltage (V)	V <sub>cc</sub> , V <sub>ccr</sub>	1.8	3.3	5.5
Clock frequency (kHz)	f <sub>clk</sub>			400
Power (mW)				15
Current (mA)	I <sub>cc</sub>			4
Data rate (Gbps)		0.010		10.3125

### Ordering Information

**AT-SP10TW1**  
Twinax direct attach cable (1 m)

**AT-SP10TW3**  
Twinax direct attach cable (3 m)

**AT-SP10TW7**  
Twinax direct attach cable (7 m)