data SHEET

QuickLink Series — Fixed-Port Active Hubs

For an economical way of expanding ARCNET® Local Area Networks (LANs), choose the QuickLink Series of fixed-port hubs. A hub allows you to add a segment and support distributed star topologies. These eight-port hubs use the same robust hub timing electronics found in the Contemporary Controls MOD HUB Series such as precision delay-line timing, digitally controlled timers for dependable operation and reduced bit jitter. A watch-dog timer stops hub lockup, eliminating the necessity of cycling power in case of transmission error.

The QuickLink operates from low-voltage AC power (8–24 VAC), using a power supply which features a fullwave solid-state bridge rectifier. Although nominally designed for powering from a 24 VAC source, this hub can also be powered from a 24 VDC source, irrespective of the polarity of the applied voltage, with no performance degradation.

Active hubs increase the robustness of ARCNET networks and extend the distance possible on each cable segment up to 610 m (2000 feet). These products block interference to the network by squelching reflections caused by open or shorted cable segments attached to the hub. Unused hub ports need not be terminated. Active hubs allow distributed star topology — thereby, reducing the cabling required in a facility. Two or more QuickLink hubs may be cascaded.

Each unit is shipped with a wall-mounted transformer having a 2 m low-voltage cord — so that it may work from local mains power, if needed.

Compatible with the baseband 2.5 Mbps ARCNET® network

- Minimizes bit jitter with precision delay line timing
- Watch-dog timer prevents hub lockup
- Hub unlatch delay digitally controlled
- Low-voltage AC powered
- CE Mark
- RoHS compliant

North American transformer shown

ARCNET®

Coaxial Cabling Topologies

Coaxial Cabling

ARCNET is typically cabled with RG-62/u coaxial cable and BNC connectors. The end of each cable segment must be terminated. This termination may be built into the device (as is the case with active hubs like the QuickLink) or added to the equipment with a terminator with 93 ohms of resistance. Never attach a BNC Tee connector to a port on the QuickLink — or any other device that has built-in termination. Unused ports on the QuickLink hub require no termination. Up to ten hubs can be cascaded — providing a maximum overall cable length of 22,000 feet.

Coaxial Star Topology

(Contemporary Controls model numbers ending in -CXS)

In a point-to-point fashion, each network interface module (NIM) can connect to one other NIM or connect directly to an unused port on the QuickLink hub. Hub-to-hub connections are allowed. The coaxial star configuration simplifies troubleshooting and provides the longest segment distance of 610 m (2000 feet).

Coaxial Bus Topology

(Contemporary Controls model numbers ending in -CXB)

The amount of coaxial cable required for a network can be reduced by employing a bus which uses BNC Tee connectors. Each connector builds a “daisy-chain” by accepting one cable in and one cable out of the Tee. In a bus, each -CXB port presents a high-impedance in both its powered and unpowered states. If such a port ends the chain, its Tee connector will require a 93-ohm terminator to balance the one attached cable.

Each bus segment can support up to eight nodes and a maximum segment length of 305 m (1000 feet). To extend a segment, connect the QuickLink at the end of the segment — never connect the hub in the middle of a segment. At one end of the original segment, remove the terminator from the Tee and, in its place, run cable to the QuickLink. The original segment requires no other changes.

Specifications

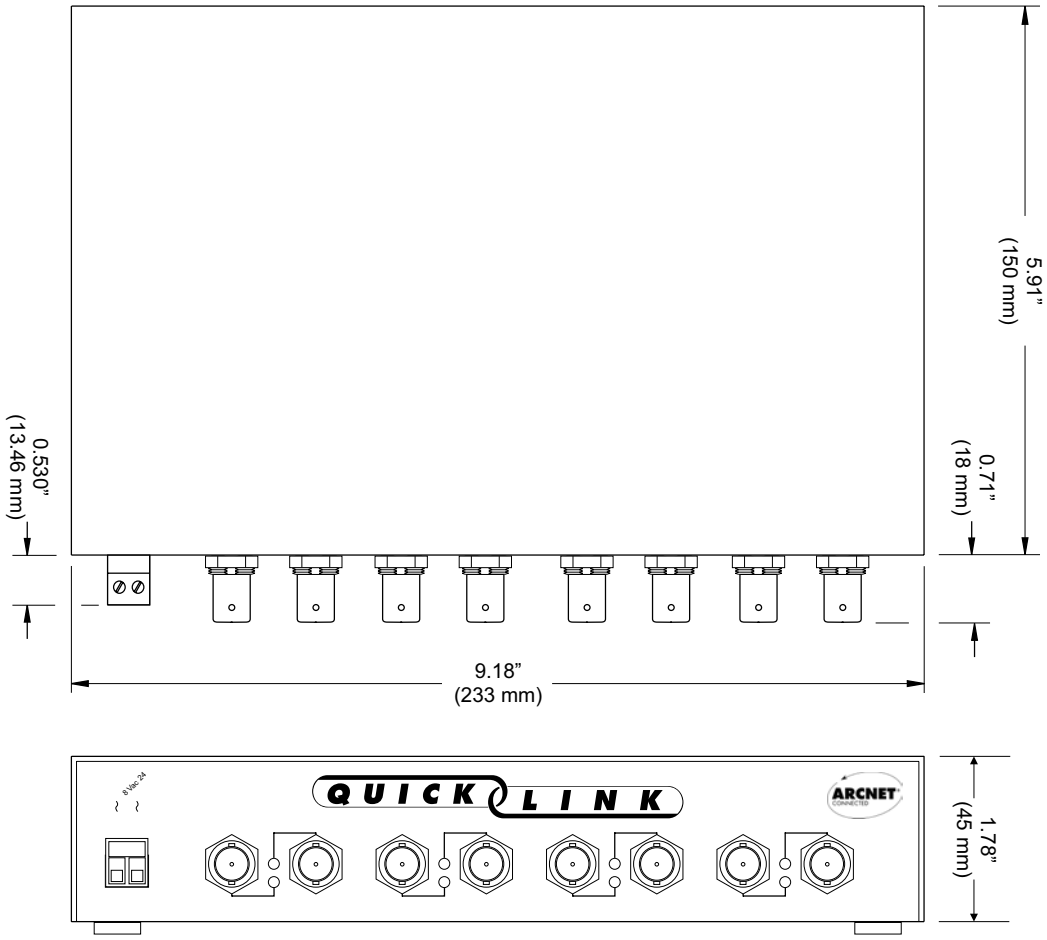
Electrical Input [1]	***AC***	
Voltage	8–24 VAC	
Power	6 VA	
Frequency	47–63 Hz	
Environmental/Mechanical		
Operating temperature	0°C to 60°C	
Storage temperature	–40°C to +85°C	
Relative humidity	10–95%, non-condensing	
Protection	IP30	
Functionality		
Data rate	2.5 Mbps	
Cable length (max)	***Star Segment (point-to-point)***	***Bus Segment (up to 8 nodes)***
	610 m (2000 feet)	305 m (1000 feet)
Hub, repeaters and link delay	320 ns typical	
Unlatch delay time	5.9 µs typical	
Compliance	ATA 878.1-1999	
LED indicators	ACTIVITY — green	
Regulatory Compliance		
CE Mark		
RoHS		
CFR 47, Part 15 Class A		

[1] For operation from mains power, a transformer (appropriate for your geographic location) is provided.

Electromagnetic Compatibility

Standard	*Test Method*	*Description*	*Test Levels*
EN 55024	EN 61000-4-2	Electrostatic Discharge	8 kV contact
EN 55024	EN 61000-4-3	Radiated Immunity	10 V/m, 80 MHz to 1 GHz
EN 55024	EN 61000-4-4	Fast Transient Burst	1 kV clamp, 2 kV direct
EN 55024	EN 61000-4-5	Voltage Surge	1 kV L-L, 2 kV L-Earth
EN 55024	EN 61000-4-6	Conducted Immunity	10 Volts (rms)
EN 55024	EN 61000-4-11	Voltage Dips & Interruptions	1 Line Cycle, 1 to 5 s @ 100% dip
EN 55022	CISPR 22	Radiated Emissions	Class A
EN 55022	CISPR 22	Conducted Emissions	Class A
CFR 47, Part 15	ANSI C63-4	Radiated Emissions	Class A

Mechanical Diagram



Ordering Information

Model	*Description*
QL-CXS	Coaxial star 8-port hub 120 VAC (nom)
QL-CXS-E	Coaxial star 8-port hub 230 VAC (nom)

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