

DH+ and Remote I/O Networks

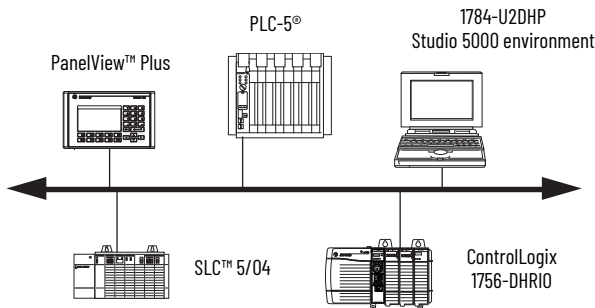


The Data Highway Plus network supports messaging between devices. The remote I/O-Link connects to remote I/O chassis and other intelligent devices.

The 1756-DHRIO module supports messaging between devices on DH+™ networks. The remote I/O functionality enables the module to act as a scanner for transferring digital and block transfer data to and from remote I/O devices.

The 1756-RIO module can act as a scanner or adapter on a remote I/O network. In addition to digital and block transfer data, the 1756-RIO module transfers analog and specialty data without message instructions.

Example Configuration—DH+ Network



Example Configuration—Remote I/O Network

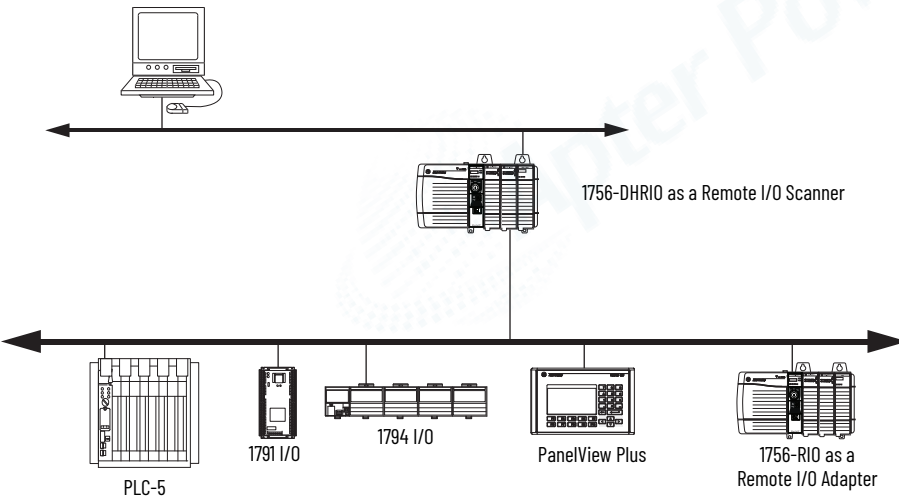


Table 13 - Technical Specifications - 1756 DH+ and Remote I/O Modules

Attribute	1756-DHRIO	1756-RIO
Communication rate	57.6 Kbps, 115.2 Kbps, 230.4 Kbps	
Remote I/O communication	Remote I/O scanner only 32 logical rack connections per remote I/O channel 16 block transfer connections per remote I/O channel	Remote I/O scanner or adapter ⁽¹⁾ 32 physical racks (0...76), any combination of rack size and block transfers
Connections supported, max	32	10 scheduled I/O
Current draw @ 5.1V DC	850 mA	450 mA
Current draw @ 24V DC	1.7 mA	5 mA
Power dissipation	4.5 W	2.5 W
Thermal dissipation	15.4 BTU/hr	8.5 BTU/hr
Isolation voltage	30V (continuous), basic insulation type, DHRIO A/B to backplane, and DHRIO A/programming port to DHRIO B No isolation between DHRIO A and Programming port Type tested at 877V DC for 60 s Compliant and tested according to IEC/UL 61010-1	50V (continuous), basic insulation type, RIO communication lines to backplane Type tested at 500V AC for 60 s Compliant and tested according to IEC/UL 61010-1
Slot width	1	
Module location	Chassis-based, any slot	
Chassis	1756-A4, 1756-A7, 1756-A10, 1756-A13, 1756-A17	
Power supply, standard	1756-PA72/C, 1756-PA75/B, 1756-PB72/C, 1756-PB75/B, 1756-PC75/B, 1756-PH75/B	
Power supply, redundant	1756-PA75R, 1756-PB75R, 1756-PSCA2	
Ports	2, individually selectable for DH+ or remote I/O	1 for remote I/O
Screw terminal torque	—	0.5...0.6 N•m (5...7 lb•in)
Wire size	0.519 mm ² (20 AWG) Belden 9463 copper twinaxial	
Wiring category ⁽²⁾	2 - on DHRIO ports 3 - on local programming port	2 - on RIO ports
North American temperature code	T4A	
IEC temperature code	T4	—
Enclosure type rating	None (open-style)	

(1) When the 1756-RIO module is used as a remote I/O adapter, the chassis must include a ControlLogix controller.

(2) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

Table 14 - Environmental Specifications - 1756 DH+ and Remote I/O Modules

Attribute	1756-DHRIO	1756-RIO
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)	0...60 °C (32...140 °F)	
Temperature, storage 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)	2 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 CISPR 11 (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 @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine wave 80% AM from 2000...2700 MHz	
EFT/B immunity IEC 61000-4-4	± 2 kV at 5 kHz	±2 kV at 5 kHz
Surge transient immunity IEC 61000-4-5	± 2 kV line-earth (CM)	
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine wave 80% AM from 150 kHz...80 MHz	

Table 15 - Certifications - 1756 DH+ and Remote I/O Modules

Certification ⁽¹⁾	1756-DHRIO	1756-RIO
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.	
CSA	CSA Certified Process Control Equipment. See CSA File LR54689C. CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations. See CSA File LR69960C.	—
CE	European Union 2014/30/EU EMC Directive, compliant with the following: • 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 & B)	
RCM	Australian Radiocommunications Act, compliant with EN 61000-6-4; Industrial Emissions	
ATEX	European Union 2014/34/EU ATEX Directive, compliant with the following: • EN 60079-15; Potentially Explosive Atmospheres, Protection "e" • EN 60079-0; General Requirements II 3 G Ex ec IIC T4 Gc	—
UKEX	In conformity with the following UKEX Statutory Instruments and their amendments: • Schedule 1 of the UKEX Regulation 2016 No. 1107 • Equipment protection by increased safety "e", reference certificate number UL22UKEX2604X • Zone 2 classification according to UKEX Regulation 2016 No. 1107	
UKCA	In conformity with the following UK Statutory Instruments and their amendments: • 2016 No. 1091, Electromagnetic Compatibility Regulations • 2016 No. 1107, Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations • 2012 No. 3032, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment	
IECEX	IECEX System, compliant with the Standards IEC 60079-0, General Requirements, and IEC 60079-7, Explosive Atmospheres, Protection "e"; II 3 G Ex EC IIC T4 Gc IECEX UL 22.0063X	
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3	
Morocco	In conformity with the following regulations: • Arrêté ministériel n° 6404-15 du 1^{er} muharram 1437 (15 octobre 2015) Équipements électriques destinés à être utilisés sous certaines limites de tension • Arrêté ministériel n° 6404-15 du 29 ramadan 1436 (16 juillet 2015) Compatibilité électromagnétique des équipements	
CCC	CCC 2020122309111998 CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products	

(1) When product is marked. See the Product Certification link at rok.auto/certifications for Declarations of Conformity, Certificates, and other certification details.