



**ROCKWELL ALLEN-BRADLEY
DATA HIGHWAY PLUS and REMOTE I/O
COMMUNICATION MODULES**

**INSTALLATION
and
USERS MANUAL**

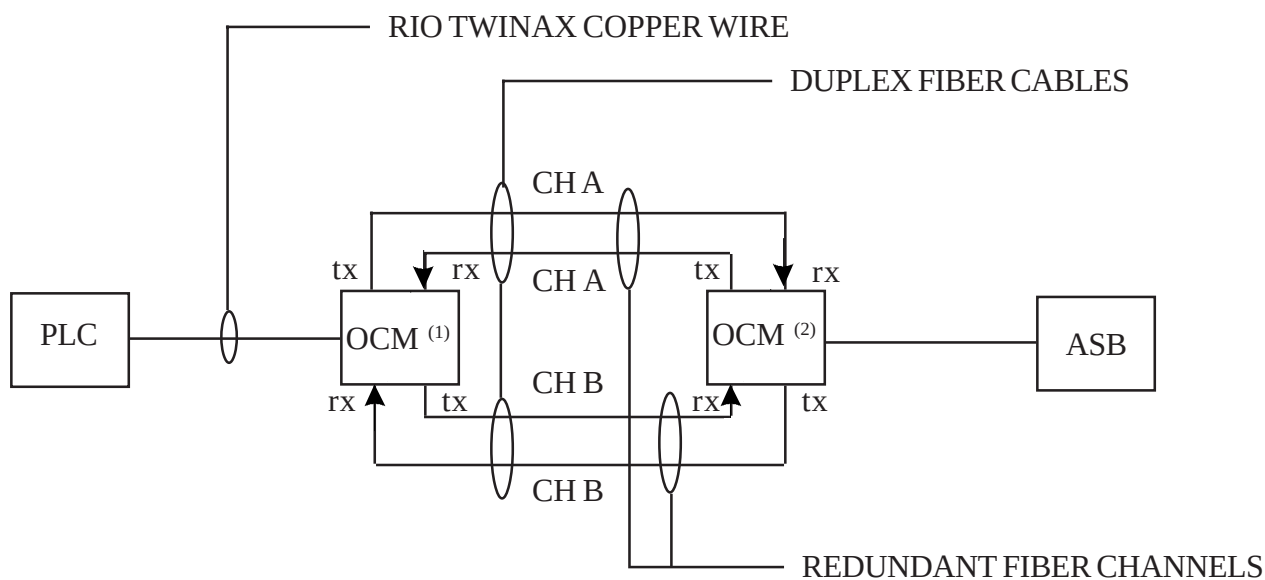
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OCM MODEL #	NETWORK COMPATIBILITY
OCM-DPR-(1)-(2)-(3)-(4)-(5)-(6)-(7)	DH+/RIO Communications (1771 Plug-In and Standalone, Panelmount modules)
OLC-DPR-(1)-(3)-(4)-(6)-(7)	DH+/RIO Communications (1746 Plug-In modules)
OCX-DPR-(1)-(3)-(4)-(6)-(7)	DH+/RIO Communications (1756 Plug-In modules)

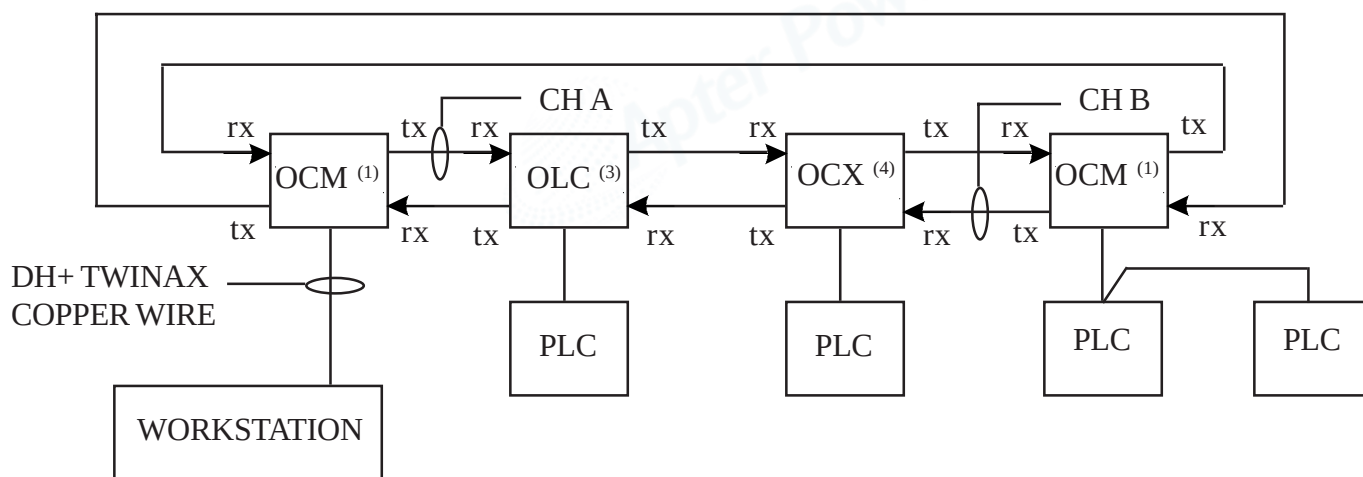
- (1) “85” = 850 nanometer wavelength selection
“13” = 1300 nanometer wavelength selection
“15” = 1550 nanometer wavelength selection
(2) “P” = Standalone, Panelmount Enclosure
blank = 1771, 1746, or 1756 Plug-In Module
(3) “D” = Interactive Diagnostics
blank = No Diagnostics
(4) “ST” = ST Fiber Optic Connector Style
“SMA” = SMA Fiber Optic Connector Style (Available with 850nm Wavelength only.)
(5) “24V” = 24 VDC Operation
“ACV” = 120/220 VAC, 50/60 Hz Operation
“125V” = 125 VDC Operation
(6) “SM” = Singlemode Fiber Compatibility (Available with 1300nm or 1550 nm Wavelengths, and ST connector options only.)
blank = Multimode Fiber Compatibility
(7) “EXT” = Extended Capacity Feature (24+ fiber optic modules on a single bus or ring network configuration.)
blank = No Extended Capacity Feature (Maximum of 12 fiber optic modules on a single bus or ring network configuration.)

PRODUCT MODEL NUMBER DEFINITION

TABLE 1



FAULT TOLERANT, REMOTE I/O POINT-TO-POINT NETWORK CONFIGURATION



FAULT TOLERANT DATA HIGHWAY PLUS RING NETWORK CONFIGURATION

(1) OPTICAL COMMUNICATION MODULE
MODEL # OCM-DPR-85-P-D-ST-ACV

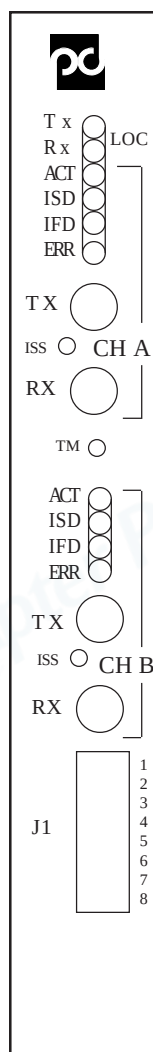
(2) OPTICAL COMMUNICATION MODULE
MODEL # OCM-DPR-85-D-ST

(3) OPTICAL LINK COUPLER
MODEL # OLC-DPR-85-D-ST

(4) OPTICAL ControlLogix MODULE
MODEL # OCX-DPR-85-D-ST

EXAMPLES OF TYPICAL FIBER OPTIC DH+ and RIO NETWORK CONFIGURATIONS

FIGURE 1



**ROCKWELL ALLEN-BRADLEY DH+/RIO
1771 PLUG-IN OCM CONNECTOR DESIGNATIONS**

FIGURE 4

OPTICAL RECEIVER (850nm MULTIMODE, 1300/1550nm MULTIMODE, and 1300/1550nm SINGLEMODE)

Receiver Sensitivity: -32dbm

Phoenix Digital's fiber optic modules may be interconnected on the fiber optic network in an active bus configuration. Network Channel A Receive Data inputs and Transmit Data outputs should be interconnected sequentially from fiber module to fiber module in one direction, and Channel B Receive and Transmit Data inputs and outputs interconnected sequentially in the opposite direction. This configuration may be made fault tolerant by cross-connecting Channel A (Ch A Transmit to Ch A Receive) and Channel B (Ch B Transmit to Ch B Receive) on the fiber modules on either end of the active bus (See Figure 7). This effectively transforms the network into a DH+ or RIO counter-rotating ring network configuration.

1.3.3 INTERACTIVE DIAGNOSTICS

Phoenix Digital's fiber optic modules provide advanced, interactive, system-level diagnostics. (Fiber modules must be ordered with the "-D" Option for Interactive Diagnostics.) These diagnostics may be accessed thru the PLC User Program (1771, 1746, and 1756 Plug-In Modules) or via Discrete Contact Outputs (Standalone, Panelmount Fiber Module) to validate network integrity and assist in troubleshooting network problems...

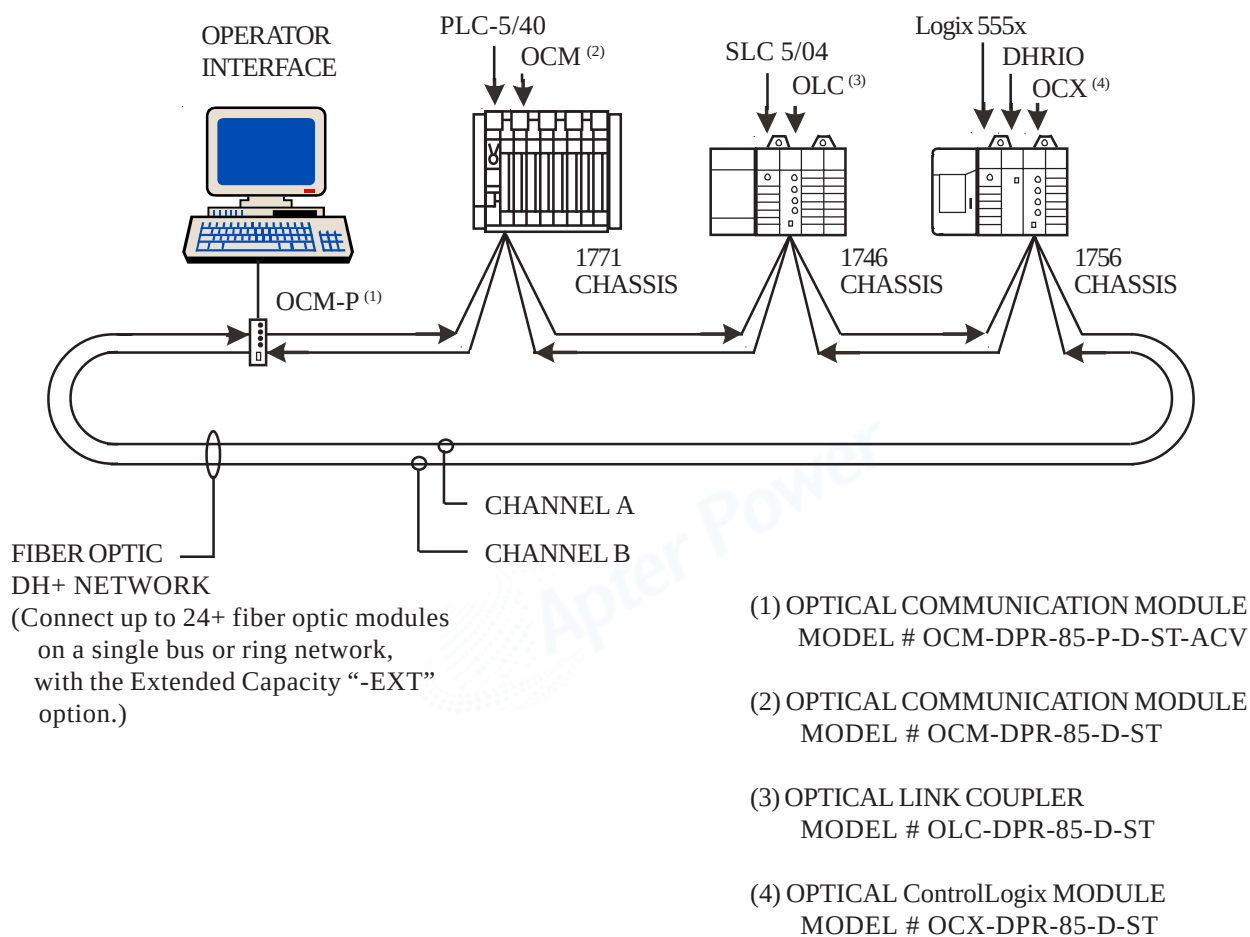
- Detect and Locate Fault Conditions Throughout the Network
- Trap-and-Hold, and Locate Intermittent Fault Conditions Throughout the Network
- Detect and Locate Impending Fault Conditions Throughout the Network
- Verify Fault Management and Overall Network Integrity
- Optical Power Metering

These advanced interactive diagnostics provide the user with a powerful set of tools, greatly simplifying network start-up and on-line maintenance of Rockwell DH+/RIO communication networks.

1.3.3.1 STANDALONE, PANELMOUNT OCMS

Activation and control of Standalone OCM Diagnostics is provided through Diagnostic Select Switch Settings. Diagnostic Select Switch Settings are provided in Table 9. Monitoring of Standalone, Panelmount OCM diagnostics is provided using reed relay contact outputs. These outputs are provided on Standalone OCMs (with the "-D" Option) and are accessible on the J4 connector.

DH+ DUAL MEDIA RING CONFIGURATION (FAULT TOLERANT)



TYPICAL DH+ FIBER OPTIC MODULE INSTALLATION CONFIGURATION

FIGURE 7

125 VDC Power Supply Requirements (Specified at the +125V, +125V Return Input Power Connections on the Standalone, Panelmount OCM Connector):

Input Voltage Range	:	120 VDC to 370 VDC
Power Consumption UL, CSA, VDE Approved	:	15 watts per OCM (approximate)
Fuse ⁽¹⁾	:	2 AMP, 250 VAC, SLO BLO (.8 inch/20 millimeter)

- (1) The fuse is mounted on the internal printed circuit board of the Auxiliary Power Supply. For fuse access the user must remove the Auxiliary Power Supply enclosure from the side of the Standalone, Panelmount OCM enclosure.

1.3.4.2 1771 PLUG-IN OCM POWER SUPPLY SPECIFICATIONS

Backplane (system chassis) power supply requirements for 1771 Plug-In OCMs are the following:

Input Voltage ⁽¹⁾	:	+5 VDC
Input Current ⁽¹⁾	:	1.9 Amps

- (1) Supplied by 1771 Chassis Power Supply

1.3.4.3 1746 PLUG-IN OLC AND 1756 PLUG-IN OCX POWER SUPPLY SPECIFICATIONS

Backplane (system chassis) power supply requirements for 1746 Plug-In OLCs and 1756 OCXs are the following:

Input Voltage ⁽¹⁾	:	+5 VDC
Input Current ⁽¹⁾	:	1.5 Amps

- (1) Supplied by 1746/1756 Chassis Power Supply

1.3.5 MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

FIBER OPTIC MODULE DIMENSIONS :

Standalone, Panelmount OCM Module : 10.38" H x 3.50" W x 6.14" D*
(26.37 cm H x 8.89cm W x 15.60 cm D*)

* Assumes Auxiliary Power
Supply is attached to side of
module.

1771 Plug-In OCM Module : Single slot, 1771 Chassis Installation.

1746 Plug-In OLC Module : Single slot, 1746 Chassis Installation.

1756 Plug-In OCX Module : Single slot, 1756 Chassis Installation.

FIBER OPTIC MODULE ENVIRONMENTAL SPECIFICATIONS :

Temperature : Operating 0° to 60°C
Storage -40°C to +85°C

Relative Humidity : 0 to 90% (non-condensing)