



ControlLogix™ Drive Module

(Catalog Numbers: 1756-DMD30 and 1756-DMF30)

The Drive Module mounts in a ControlLogix™ chassis. The ControlLogix system must be mounted within a suitable enclosure to prevent personal injury resulting from accessibility to live parts. The interior of this enclosure must be accessible only by the use of a tool.

This industrial control equipment is intended to operate in a Pollution Degree 2 environment, in overvoltage Category II applications, as defined in IEC publication 664A, at altitudes up to 2000 meters without derating.

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Obtain a User Manual

This product also has a user manual (pub. no. 1756-UM522A-EN-P). To view it, visit www.ab.com/manuals or www.theautomationbookstore.com. You can also purchase a printed manual by:

- contacting your local distributor or Rockwell Automation representative
- visiting www.theautomationbookstore.com and placing an order
- calling 800.963.9548 (USA/Canada) or 001.320.725.1574 (outside USA/Canada)

Identify Module Components

You should have received a Drive Module with your order. If you did not receive one of these components, contact your Rockwell Automation sales office.

The module mounts in a ControlLogix™ chassis and connect to an individual Power Module Interface (PMI) chassis and SynchLink devices through fiber optic cable. See [page 8](#) for a list of compatible fiber optic cables.

Removal and Insertion Under Power (RIUP)



WARNING: This module is designed so you can remove and insert it under backplane power. When you remove or insert a module, you may cause an electrical arc. An electrical arc can cause personal injury or property damage because it may:

- Send an erroneous signal to your system's field devices, causing unintended machine motion or loss of process control.
- Cause an explosion in a hazardous environment.

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

Be sure that power is removed or the area is non-hazardous before proceeding.

Class 1 LED Product



ATTENTION: This product emits intense light and invisible radiation. Hazard of permanent eye damage exists when using optical transmission equipment. Do not look into module ports or fiber optic cable connectors.

Prevent Electrostatic Discharge



ATTENTION: Electrostatic discharge can damage integrated circuits or semiconductors if you touch backplane connector pins. Follow these guidelines when you handle the module:

- Touch a grounded object to discharge static potential.
 - Wear an approved wrist-strap grounding device.
 - Do not touch the backplane connector or connector pins.
 - Do not touch circuit components inside the module.
 - If available, use a static-safe work station.
 - Keep the module in its static-shield box when not in use.
 - Keep fiber optic dust covers installed when not in use.
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Compliance to European Union Directive

If this product bears the CE marking, it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2 EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2 EMC – Generic Immunity Standard, Part 2 – Industrial Environment

This product is intended for use in an industrial environment.

Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1
- Automation Systems Catalog, publication B111

Open style devices must be provided with environmental and safety protection by proper mounting in enclosures designed for specific application conditions. See NEMA Standards publication 250 and IEC publication 529, as applicable, for explanations of the degrees of protection provided by different types of enclosures.

Power Requirements

This module receives power from the 1756 chassis power supply and requires 2 sources of power from the backplane:

- 1.35A at 5.1V DC
- 3.0 mA at 24V DC

Add this current/power value (6.96 W) to the requirements of all other modules in the chassis to prevent overloading the power supply.

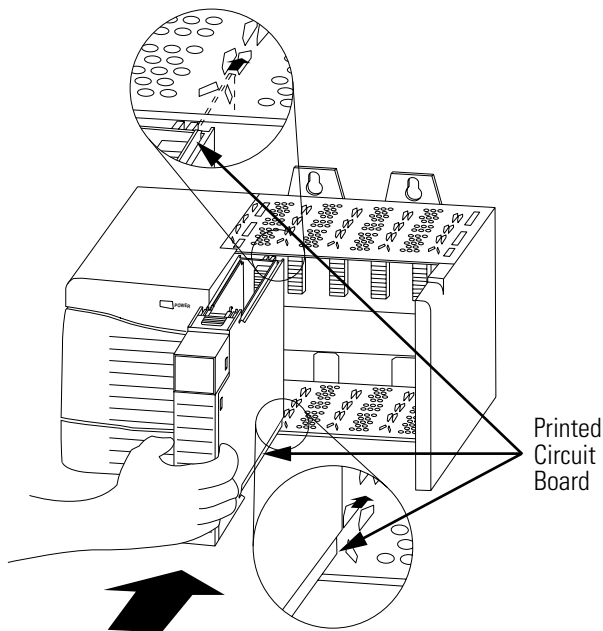
Install the Module

You can install or remove the module while chassis power is applied.

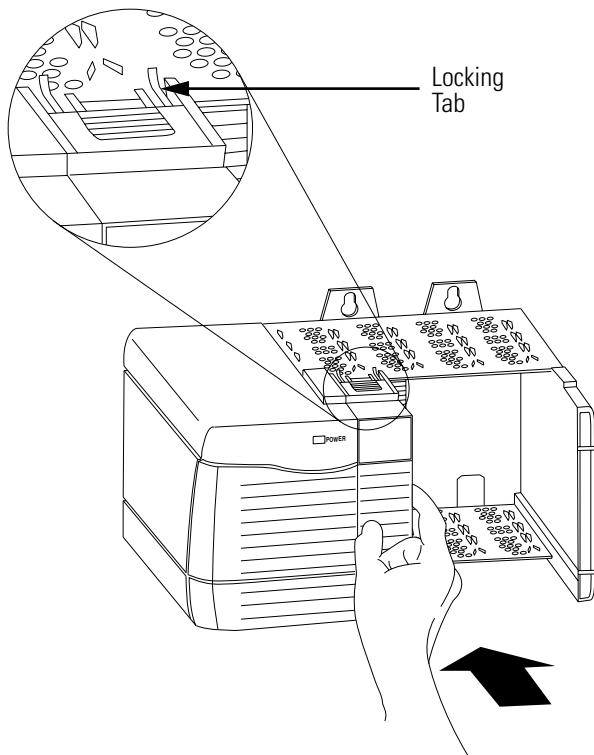


ATTENTION: The module is designed to support Removal and Insertion Under Power (RIUP). However, when you remove or insert the module with power applied, **unintended machine motion or loss of process control can occur**. Exercise extreme caution when using this feature.

1. Align circuit board with top and bottom chassis guides.



- Slide module into chassis until module locking tabs “click.”



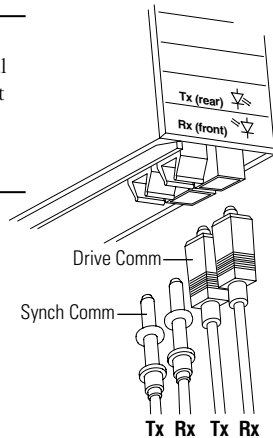
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Connect the Fiber Optic Cables

Connect the fiber optic cables as shown.



ATTENTION: Hazard of permanent eye damage exists when using optical transmission equipment. This product emits intense light and invisible radiation. Do not look into module ports or fiber optic cable connectors.



Pre-Configured Drive Comm Cables

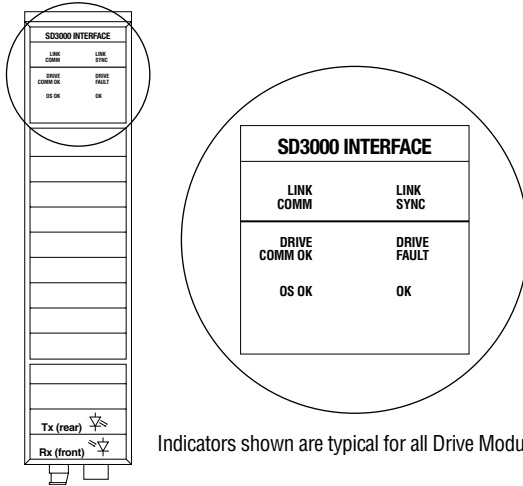
Catalog Number	Length
1756-DMCF001	1 meter
1756-DMCF003	3 meters
1756-DMCF010	10 meters
1756-DMCF030	30 meters
1756-DMAF (UDC/PMI existing cable adapters)	N/A

Pre-Configured SynchLink Comm Cables

Catalog Number	Length
1403-CF001	1 meter
1403-CF003	3 meters
1403-CF005	5 meters
1403-CF010	10 meters
1403-CF020	20 meters
1403-CF050	50 meters
1403-CF100	100 meters
1403-CF250	250 meters

Check the Indicators

The indicators show SynchLink and Drive status (red/green) and a bi-colored LED for module “OK” (red/green).



Indicators shown are typical for all Drive Modules.

During power up, the “OK” indicator turns red for 5 seconds and then turns to flashing green if it has passed the self-test.

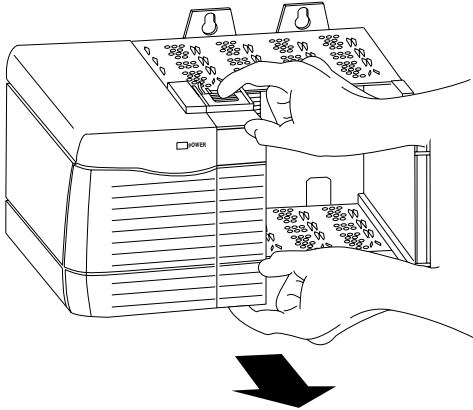
Use the following table to troubleshoot your module.

LED Indicator	Display	Means	Take this Action
OK	Green	Connection is running.	None
	Flashing Green	Inhibited I/O connection.	None
	Red	Non-Recoverable Fault	Remove module from service
	Flashing Red	Flash download in progress.	None
Off		Module is powered down.	None

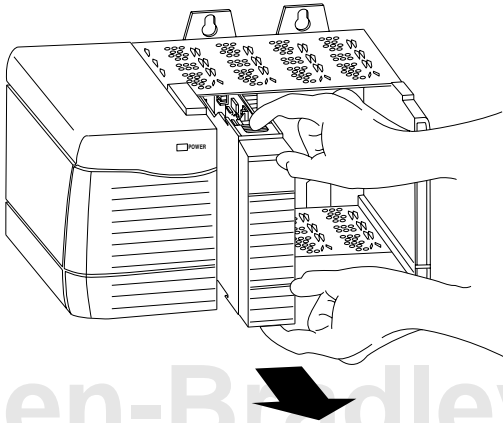
LED Indicator	Display	Means	Take this Action
DRIVE FAULT	Red	Module is faulted.	See Fault Status parameters.
	Off	No fault is present or module is powered down.	None
LINK SYNC	Green	The module is the time master or a time relay and synchronization is complete.	None
	Flashing Green	The module is configured as a time relay from CST to SynchLink but is not synchronized with a CST master on the backplane.	N/A
		The module is configured as a time relay from SynchLink to CST but has not synchronized with the upstream device.	N/A
	Flashing Red	The module is configured as a CST master and has detected another CST master.	N/A
		The module is configured as a time master on SynchLink and has received time information from another time master on SynchLink.	Ensure that only 1 time master is present and transmitting time information on SynchLink.
	Off	The module is not configured as a time master or time relay or module is powered down.	None
OS OK	Green	System and parameter constants loaded.	None
	Off	Checksum failure.	Reflash the module.
DRIVE COMM OK	Green	DPS communication is active and synchronized.	None
	Off	DPS communication is not active, is not synchronized, or the module is powered down.	Verify that cables are securely connected.
LINK COMM	Green	The module is configured and receiving valid data from SynchLink.	None
		The module is configured and enabled to only transmit on SynchLink.	None
	Off	The module is configured but not receiving valid data from SynchLink.	Verify that cables are securely connected.
		The module is configured but not enabled to transmit on SynchLink.	Enable module transmitter.
		Module is powered down.	Power the module.

Remove the Module

1. Disconnect the fiber optic cable.
2. Push in top and bottom locking tabs.








3. Pull module out of the chassis



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1756-DM Specifications

Consideration	Description
Module Location	1756 ControlLogix Chassis
Backplane Current	1.35A at 5.1V DC and 3.0mA at 24V DC
Maximum Power Dissipation	6.96 W
Thermal Dissipation	23.7 BTU/hr
Indicators	Green and red indicators for operation, status, and diagnostics.
Environmental Conditions	
Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-40° to 85°C (-40° to 185°F)
Relative Humidity	5 to 95% non condensing
Shock	
Operating	30g peak acceleration, 11 (±1 ms) pulse width
Non-operating	50g peak acceleration, 11 (±1 ms) pulse width
Vibration	Tested 2g at 10-500Hz per IEC 68-2-6
Agency Certification (When product is marked.)	 Listed Industrial Control Equipment  Certified Process Control Equipment Certified Class I, Division 2, Group A, B, C, D  Approved Class I, Division 2, Group A, B, C, D  Marked for all applicable directives  Marked for all applicable acts N223

Consideration	SynchLink	Drive Communication
Connecting Cables ⁽¹⁾	200/230 micron HCS (Hard Clad Silica) Versalink V-System Lucent Technologies, Specialty Fibers Technology Division	62.5/125 micron glass One pair SC Style, one pair ST Style Breakout Cables: Belden 225362 or Mohawk M92021
Maximum Cable Length	300 meters with no more than one splice or one adapter	300 meters with no more than one splice or one adapter
Minimum Cable Length	1 meter	1 meter
Operating Wavelength	650 nm (Red)	820 nm (InfraRed)
Data Rate	5 Mbps	10 Mbps
Maximum Node Count	10 - Daisy Chain, 256 - Star Configuration	1 - PMI Chassis

(1) See [page 8](#) for Allen-Bradley catalog numbers.

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Hazardous Location Information

This information applies when operating this equipment in hazardous locations.

Products marked “CL I, DIV 2, GP A, B, C, D” are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rated nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest “T” number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local authority having jurisdiction at the time of installation.



WARNING: EXPLOSION HAZARD

- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
 - Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
 - Substitution of components may impair suitability for Class I, Division 2.
 - If this product contains batteries, they must only be changed in an area known to be nonhazardous.
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Informations sur l'utilisation de cet équipement en environnements dangereux :

Les produits marqués « CL I, DIV 2, GP A, B, C, D » ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.



AVERTISSEMENT : RISQUE D'EXPLOSION

- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.
 - Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.
 - La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2.
 - S'assurer que l'environnement est classé non dangereux avant de changer les piles.
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