



1771-DMC Control Coprocessor

To The Installer

Use this document to:

- follow pre-installation considerations and requirements
- install the control coprocessor
- know other important information about the control coprocessor

For information about:	Refer to page:
European Communities Directive	2
Important User Information	3
Pre-installation Requirements	4
Selecting a Power Supply	4
Preventing Electrostatic Discharge	5
Installing or Replacing the Battery	6
Installing the Keying Bands	8
Setting the Switches	9
Installing the Control Coprocessor	9
Applying Power	12
Interpreting the Status Indicators	13
Connecting the Cable	14
Control Coprocessor Specifications	18

European Communities (EC) Directive Compliance

If this product has the CE mark, 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 the Council Directive 89/336/EC Electromagnetic Compatibility (EMC) by applying 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 Allen-Bradley publication Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

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 enclosure.

Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of this control equipment must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards.

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Allen-Bradley does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Allen-Bradley publication SGI-1.1, *Safety Guidelines for the Application, Installation and Maintenance of Solid-State Control* (available from your local Allen-Bradley office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

Reproduction of the contents of this copyrighted publication, in whole or part, without written permission of Rockwell Automation, is prohibited.

Throughout this publication we use notes to make you aware of safety considerations:

WARNING

Identifies information about practices or circumstances that have the potential to create an explosion hazard.

ATTENTION

Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss.

Spare Allen-Bradley Parts

Attention statements help you to:

- identify a hazard
- avoid a hazard
- recognize the consequences

IMPORTANT

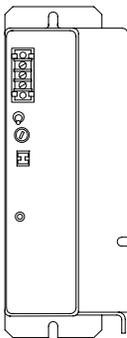
Identifies information that is critical for successful application and understanding of the product.

Pre-installation Requirements

Before you install your coprocessor module, you need the following items:

- power supply
- ESD grounding wrist strap
- properly-grounded chassis and keying bands
- PLC-5 controller
- miscellaneous coprocessor hardware kit (included with the coprocessor module) containing:
 - lithium battery, battery cover and mounting screws
 - connector header (cat. no. 1785-CNH) with four screws and nylon spacers

Select a Power Supply

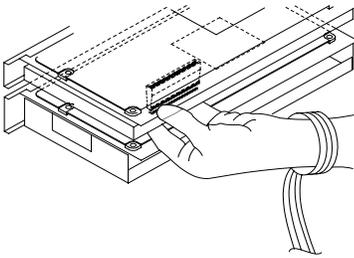


Follow these procedures to determine the proper power supply for your application. Refer to the *Automation Systems Product Catalog* (publication B113) for backplane current requirements.

1. Record the current draw for all I/O modules in the chassis.
2. Record the current draw for the programmable controller or adapter module in the chassis.
3. Record 2.50 amps for the control 1771-DMC, or 4.00 amps for each 1771-DMC1 and 1771-DMC4 module with Ethernet and transceiver.
4. Total the values recorded in steps 1 through 3.
5. Select a power supply dependent on the input voltage required and total current requirements recorded in step 4.
6. If you are using an external power supply, select a cable.

Important: You cannot use an external power supply and a slot-based power supply to power the same chassis. They are incompatible.

Prevent Electrostatic Discharge



The control coprocessor is sensitive to electrostatic discharge (ESD). ESD can damage integrated circuits or semiconductors in the module. ESD can also damage the module when you set configuration switches or add RAM memory.

ATTENTION



Do not handle the control coprocessor or the PLC-5 programmable controller without approved ESD protection. Wear a wrist strap that is attached to an approved grounding point and remains attached at all times during the installation or removal procedures.

Observe the following precautions to avoid ESD damage while performing any task in this document:

- wear a properly grounded wrist strap and remain in contact with an approved ground point while handling the control coprocessor or PLC-5 controller
- place the control coprocessor or PLC-5 in a static-safe bag when they are not installed in the I/O chassis
- do not touch the backplane connector or connector pins

Spare Allen-Bradley Parts

Install or Replace the Battery

A 3.0 volt lithium battery (cat. no. 1770-XYC) is included with your control coprocessor.

ATTENTION



Lithium battery requirements:

- do not short, recharge, heat above 85°C, disassemble or expose contents to water
- use only the 1770-XYC battery in the control coprocessor. DO NOT use any other type or size of battery.

Important: In non-hazardous environments, it may be possible to replace the battery while the control coprocessor is powered so that your programs are maintained in memory. You may lose your programs if you remove the battery when power is removed.

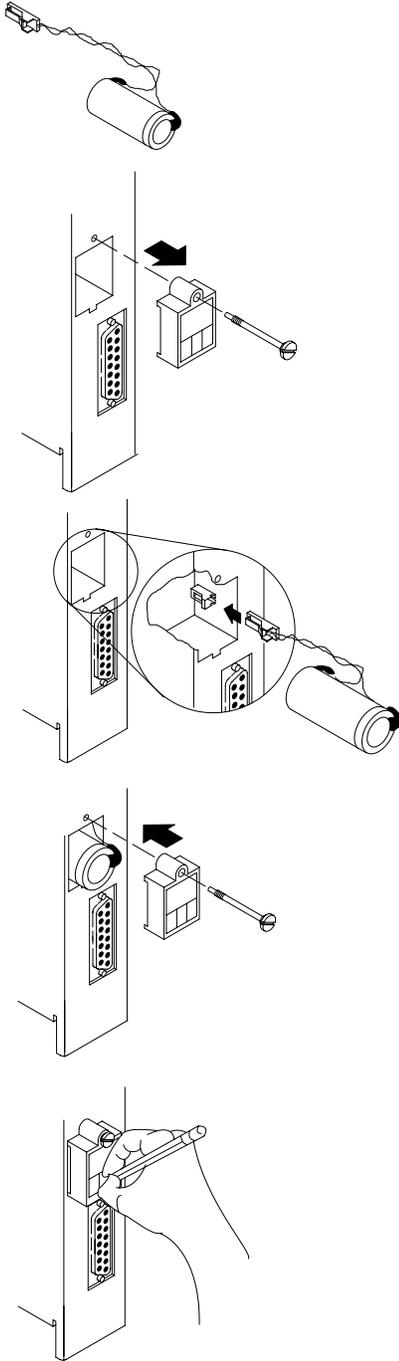
WARNING



When you connect or disconnect the battery, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

- For safety information on the handling of lithium batteries, including handling and disposal of leaking batteries, refer to *Guidelines for Handling Lithium Batteries*, publication AG-5.4
 - Store batteries in a cool, dry environment. We recommend 25°C with 40% to 60% relative humidity. You may store batteries up to 30 days between -45° - 85°C, such as during transportation. To avoid possible leakage, do not store batteries above 60°C for more than 30 days.
-

Use the illustration and procedures below when you want to install or replace the battery:



1. Remove the battery from the shipping bag.
2. Remove the battery cover from the control coprocessor (if you are replacing an existing battery, remove it from the control coprocessor by pressing down on the locking clip as you slide it out).
3. Connect the new or replacement battery by attaching the wired clip to the mating connector on the control coprocessor.
4. Place the battery and tuck the wires inside the battery area on the control coprocessor and replace the battery cover.
5. Use a pencil or erasable pen to write the battery installation date on the battery cover.

WARNING



When you connect or disconnect the battery, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

- For safety information on the handling of lithium batteries, including handling and disposal of leaking batteries, refer to *Guidelines for Handling Lithium Batteries*, publication AG-5.4
- Store batteries in a cool, dry environment. We recommend 25°C with 40% to 60% relative humidity. You may store batteries up to 30 days between -45° - 85°C, such as during transportation. To avoid possible leakage, do not store batteries above 60°C for more than 30 days.

Dispose of a Battery

If you need to dispose of a battery, follow the procedures described in *Guidelines for Handling Lithium Batteries*, (pub. no. AG-5.4).

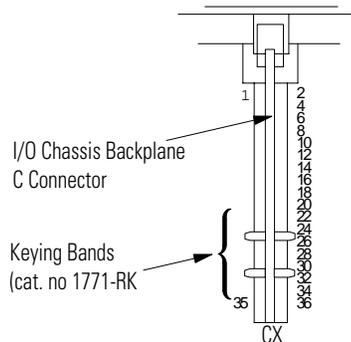
ATTENTION



Follow these precautions to prevent the battery from exploding. An exploding battery exposes toxic, corrosive and flammable chemicals and causes burns.

- do not incinerate or expose the battery to high temperatures
- do not solder the battery or leads
- do not open, puncture or crush the battery
- do not charge the battery
- do not short positive or negative terminals together

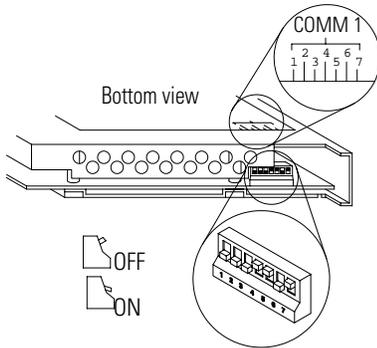
Install the Keying Bands



Before you install the control coprocessor into the I/O chassis, you must position the keying bands on the top connector of the chassis backplane between pins:

- 24 and 26
- 30 and 32

Set the Switches on the Control Coprocessor

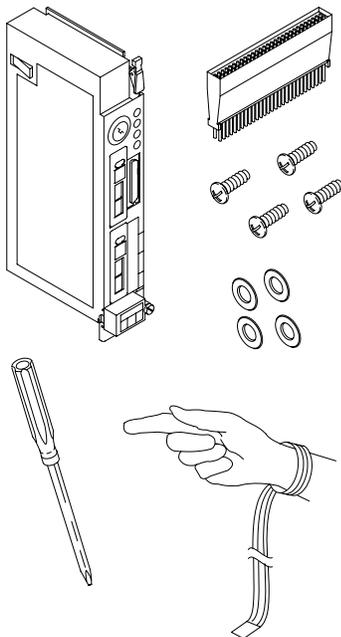


Set the COMM 1 switches as shown in the following figure and table:

For this RS Communication:	Set the switch to either ON or OFF						
	1 to:	2 to:	3 to:	4 to:	5 to:	6 to:	7 to:
RS-232C	ON	ON	ON	OFF	OFF	ON	ON
RS-422 (compatible)	OFF	OFF	ON	OFF	OFF	OFF	OFF
RS-423	ON	ON	ON	OFF	OFF	ON	OFF
RS-485	ON	ON	ON	OFF	ON	ON	ON

Install the Control Coprocessor

You can install the control coprocessor in either direct-connect or standalone mode.



If you want to:	Follow these procedures:	On page:
Install a control coprocessor main module directly connected to a PLC-5 programmable controller	Direct-connect mode installation	Below
Install a control coprocessor in the same chassis as, or remotely-located from a programmable controller, but not directly connected	Standalone mode installation	11

Direct-Connect Mode Installation

For direct-connect mode installation, connect the control coprocessor to a PLC-5 programmable controller (with expansion port) using a connector header. Then install the control coprocessor/PLC-5 programmable controller as a unit into an I/O chassis.

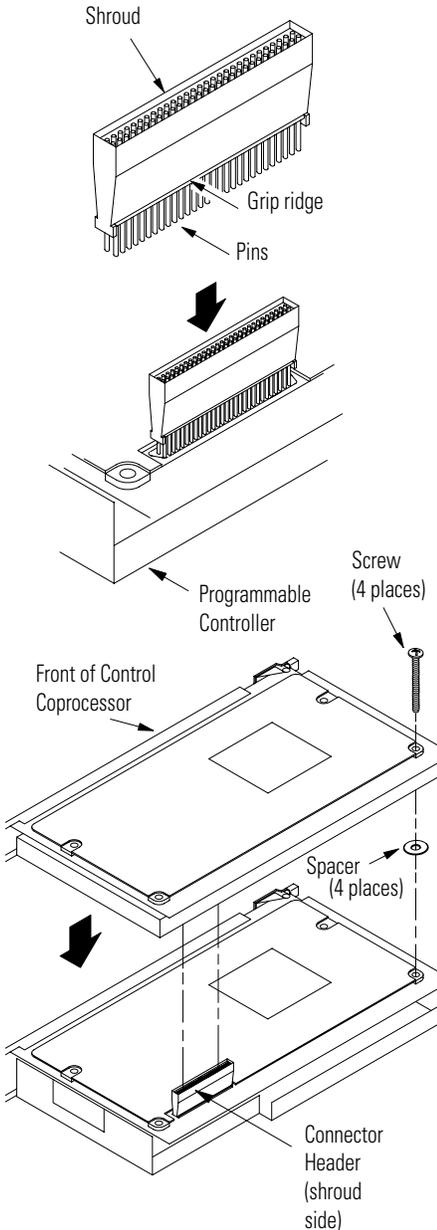
To do this, you need these items:

- PLC-5 programmable controller with side connector
- ESD grounding strap
- miscellaneous coprocessor hardware kit (included with the coprocessor module) containing:
 - connector header (cat. no 1785-CNH) with four screws and nylon spacers
 - screwdriver

Spare Allen-Bradley Parts

Connect the Control Coprocessor to the PLC-5

To connect the control coprocessor to the PLC-5 programmable controller, use the illustrations in the page margin along with the following procedures:



1. Place the PLC-5 on a flat, anti-static surface with the side connector face up.

ATTENTION



Avoid bending the pins when installing the connector header into the PLC-5 programmable controller side connector. Also, avoid bending the pins when installing the control coprocessor onto the connector header.

2. Hold the connector header at the grip ridge with the pins facing down.
3. Insert the connector header into the programmable controller.

Important: Attach the shroud and the pin side of the connector header in the designated device; however, the shroud side and the pin side are not keyed.

4. Place the four nylon spacers (adhesive-side down) over the programmable controller screw holes.
5. Install the control coprocessor onto the shroud-side of the connector header.
6. Install the four screws partially and then properly align the coprocessor and module. Tighten the four screws.

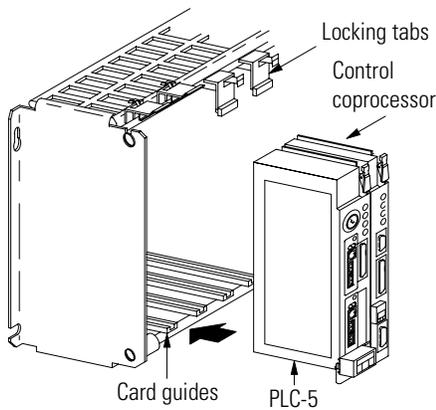
WARNING



This module is not designed for removal and insertion under backplane power. When you install or remove the module while backplane power is on, an electrical arc can occur and/or damage the module. This could cause an explosion in hazardous location installations. Be sure that power is removed.

Install the Direct-Connect Control Coprocessor

To install the direct-connect control coprocessor in the 1771 I/O chassis, use the illustrations in the page margin along with the following procedures:



1. Be sure that power is OFF to the 1771 I/O chassis.
2. Using the card guides, install the direct-connect module in the chassis in the left-most slot.
3. Gently push the module toward the backplane and into the backplane connectors.
4. Close the locking tabs on the chassis.

Standalone Mode Installation

You can place the control coprocessor in any available slot in the I.O chassis, with the following limitations:

- if using the serial expander module, it must reside in the same module pair (under the same locking tab) as the main module
- the 1785-BCM/BEM backup communication module(s) must be in a different module pair (under a different locking tab) than the control coprocessor. You can place the 1785-BCM module in an adjacent slot to the control coprocessor, but in a different module pair.
- place 1771 I/O modules that require expander modules in a different module pair (under a different locking tab) than the control coprocessor. Some examples are: 1771-IX, -QC, -QA, -OF and -IF.

To install the standalone control coprocessor in the 1771 I/O chassis, use the above illustration in the page margin along with the following procedures:

1. Be sure that power is OFF to the 1771 I/O chassis.
2. Using the card guides, insert the control coprocessor into the designated slot of the I/O chassis.
3. Gently push the module toward the backplane and into the backplane connectors.
4. Close the locking tabs on the chassis.

WARNING

This module is not designed for removal and insertion under backplane power. When you install or remove the module while backplane power is on, an electrical arc can occur and/or damage the module. This could cause an explosion in hazardous location installations. Be sure that power is removed.

WARNING

If you connect or disconnect the communication cables with power applied to this module (or the communication devices on the other end of the cable), an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Apply Power to the Control Coprocessor

When you apply power, the control coprocessor perform the following functions at power-up:

- bootstrap routine
- OS-9 initialization
- A-B initialization (if using direct-connect mode)
- invokes either a user start-up program or the OS-9 shell (command interpreter)
- hardware initialization (RAM disk, OS-9 clock, serial ports)
- energizes fault relay

You will get the following normal indications on the control coprocessor after power up:

1. CPU LED blinks green four times and then remains lit green
2. BATT LED blinks red four times and then goes off (this indicates a properly-charged battery).

Interpret the Status Indicators



Use the following table to interpret the control coprocessor's status indicators:

Indicator:	Color:	Means:
CPU	Green	Valid programmable controller cycles are occurring
	Red	Fault condition
COMM0 and COMM1	Green	Receiving data
	Red	Transmitting data
	Off	Idle
BATT	Off	Battery is present and OK
	Red	Battery is not installed or needs replacing

Remove the Control Coprocessor

Before removing the control coprocessor (in either direct-connect or standalone mode), be sure that power is OFF to the 1771 I/O chassis. Remove the module by reversing the installation procedure. When using direct-connect mode, separate the control coprocessor from the PLC-5 programmable controller.

Spare Allen-Bradley Parts

Connect the Cable

Connecting to the 9-Pin COMMO (/TERM) Port

The following table shows pin assignments for the 9-pin COMMO (/TERM) port on the control coprocessor:

Pin	Signal	Pin	Signal	Pin	Signal
1	DCD	4	DTR	7	RTS
2	RxD	5	Signal GND	8	CTS
3	TxD	6	DSR	9	No Connect

Cable Length Requirements

Communication for the COMMO port complies with EIA RS-232C requirements. For all available transmission rates, you can use a cable with a maximum length up to 15 meters (50 feet).

Cable Configurations

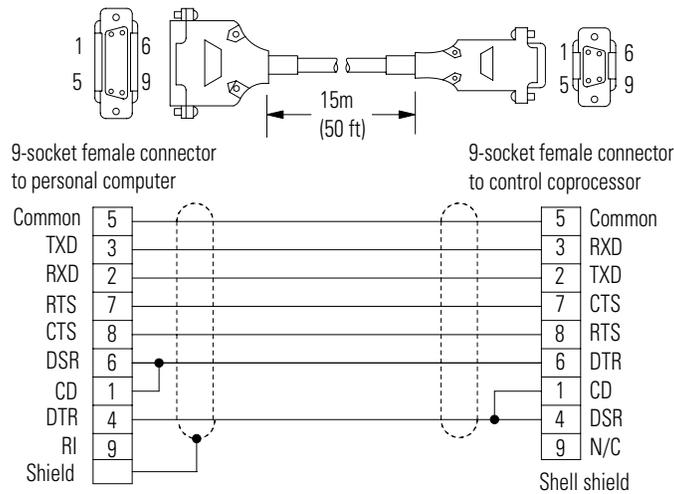
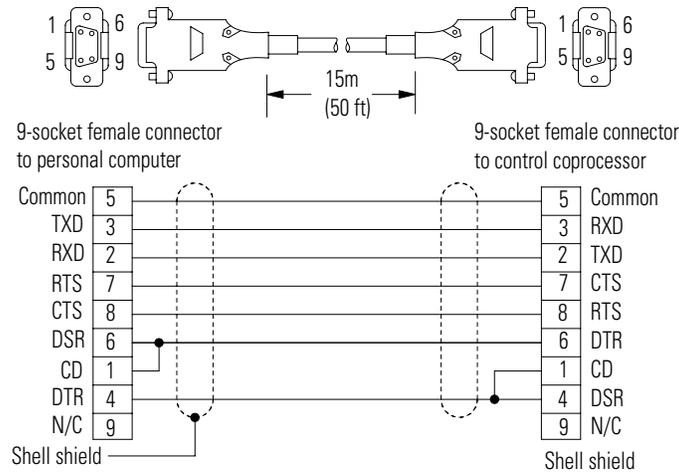
Refer to the figure on the next page for cable configurations for the COMMO port.

WARNING



If you connect or disconnect the communication cables with power applied to this module (or the communication devices on the other end of the cable), an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Connecting to the 9-Pin COMMO Port



The following table shows pin assignments for the 25-pin COMM1 (/t1) port on the control coprocessor:

Pin	RS-232C	RS-422A	RS-423	RS-485
1	C.GND	C.GND	C.GND	C.GND
2	TXD.OUT	TXD.OUT	TXD.OUT	RESERVED
3	RXD.IN	RXD.IN	RXD.IN	RESERVED
4	RTS.OUT	RTS.OUT	RTS.OUT	RESERVED
5	CTS.IN	CTS.IN	CTS.IN	RESERVED

6	DSR.IN	DSR.IN	DSR.IN	RESERVED
7	SIG.GND	SIG.GND	SIG.GND	SIG.GND
8	DCD.IN	DCD.IN	DCD.IN	RESERVED
9	RESERVED	RESERVED	RESERVED	RESERVED
10	NOT USED	DCD.IN	NOT USED	NOT USED
11	RESERVED	RESERVED	RESERVED	TXRX
12	RESERVED	RESERVED	RESERVED	RESERVED
13	NOT USED	CTS.IN	NOT USED	NOT USED
14	NOT USED	TXD.OUT	SEND COM	NOT USED
15	RESERVED	RESERVED	RESERVED	RESERVED
16	NOT USED	RXD.IN	REC COM	NOT USED
17	RESERVED	RESERVED	RESERVED	RESERVED
18	RESERVED	RESERVED	RESERVED	RESERVED
19	NOT USED	RTS.OUT	NOT USED	NOT USED
20	DTR.OUT	DTR.OUT	DTR.OUT	RESERVED
21	RESERVED	RESERVED	RESERVED	RESERVED
22	NOT USED	DSR.IN	NOT USED	NOT USED
23	NOT USED	DTR.OUT	NOT USED	NOT USED
24	RESERVED	RESERVED	RESERVED	RESERVED
25	RESERVED	RESERVED	RESERVED	TXRX

WARNING

If you connect or disconnect the communication cables with power applied to this module (or the communication devices on the other end of the cable), an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Cable Length Requirements

Communication:	Transmission Rate:	Maximum Cable Length:
RS-232C	all	15m (50 ft)
RS-422 (compatible)	19.2 kbps	61m (200 ft)
RS-423	9600	122m (400 ft)
RS-485	all	1.2 KM (4000 ft)

Important: Properly secure all serial cable connectors to the port by tightening the lock screws on both sides of the connector until snug - then add one-quarter turn.

Connecting to the AUI Port

The following table shows pin assignments for connecting the transceiver to the AUI port:

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	CI-S	5	DI-A	9	CI-B	13	VP
2	CI-A	6	VC	10	DO-B	14	VS
3	DO-A	7	CO-A	11	DO-S	15	CO-B
4	DI-S	8	CO-S	12	DI-B	Shield	PG

Cable Length Requirements

Use the following table to determine lengths for available ethernet cables:

Catalog Number:	Includes:
1785-TC02/A	2.0m (6.5 ft)
1785-TC15/A	15.0m (49.2 ft)
1785-TAS/A (kit)	Thin-wire transceiver and 2.0m (6.5 ft) cable
1785-TAM/A (kit)	Thin-wire transceiver and 15.0m (49.2 ft) cable
1785-TBS/A (kit)	Thick-wire transceiver and 2.0m (6.5 ft) cable
1785-TBM/A (kit)	Thick-wire transceiver and 15.0m (49.2 ft) cable

Important: Properly secure the AUI cable connector to the port by securing the slide latch over both locking posts on each side of the connector.

WARNING



If you connect or disconnect the Ethernet cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Specifications

The following table lists general specifications for the control coprocessor:

Backplane Current	Control coprocessor	<ul style="list-style-type: none"> 2.50 A at +5 Vdc (1771-DMC module with no Ethernet) 4.00 A at +5 Vdc (1771-DMC1 or -DMC4 module with Ethernet and transceiver)
	AUI port	450mA @ 15Vdc
Environmental Conditions	Operating temperature	0-60° C (32-140° F)
	Storage temperature	-40-85° C (-40-185° F)
	Relative humidity	5-95% (without condensation)
Time-of-Day Clock and Calendar	Maximum variations at 60C	±5 minutes per month
	Typical variations at 20C	±20 seconds per month
Communication Ports	COMM0	RS-232; 9-pin - wire category 2 ¹ , 60°C
	COMM1	RS-232, -423, - 485 and -422 compatible; 25-pin - wire category 2 ¹ , 60°C
	Ethernet Port	TCP/IP protocol using FTP, TELNET and socket library routines; INTERCHANGE server, SNMP compatible (MIB I); 15-pin standard transceiver - wire category 2 ¹ , 60°C, 802.3 compliant
Communication Rates	COMM0, COMM1	110, 150, 300, 600, 1200, 2400, 4800, and 9600 bps, 19.2 Kbps and 38.4 Kbps
	Ethernet	10 Mbps
Location	1771 I/O Chassis	<ul style="list-style-type: none"> direct-connect to a PLC-5 programmable controller same chassis as a programmable controller, but stand-alone remotely located from a programmable controller and stand-alone
Keying	Main module (on the upper C connector)	<ul style="list-style-type: none"> between 24 and 26 between 30 and 32
	Serial Expander module (one on the upper C and two on the lower D connectors)	<ul style="list-style-type: none"> between 16 and 18 (upper C connector) between 2 and 4 (lower D connector) between 16 and 18 (lower D connector)
Agency Certification	(when product or packaging is marked)	 Listed Industrial Control Equipment  Certified Process Control Equipment Certified Class I, Division 2, Group A, B, C, D  Marked for all applicable directives  Marked for all applicable acts N223
Battery Life	Control coprocessor	1 year

¹ Use this conductor category information for planning conductor routing as described in publication 1770-4.1, *Industrial Automation Wiring and Grounding Guidelines*.

This product must be mounted within a suitable system 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.

CSA Hazardous Location Approval	Approbation d'utilisation dans des environnements dangereux par la CSA
<p>CSA certifies products for general use as well as for use in hazardous locations. Actual CSA certification is indicated by the product label as shown below, and not by statements in any user documentation.</p>	<p>La CSA certifie des produits pour une utilisation générale aussi bien que pour une utilisation en environnements dangereux. La certification CSA en vigueur est indiquée par l'étiquette produit et non par des indications dans la documentation utilisateur.</p>
<p>Example of the CSA certification product label:</p>  <p>The image shows a CSA certification label with the CSA logo, the text 'CL I, DIV 2', 'GP A,B,C,D', and 'TEMP' followed by a redacted area.</p>	<p>Exemple d'étiquette de certification d'un produit par la CSA:</p>  <p>The image shows a CSA certification label with the CSA logo, the text 'CL I, DIV 2', 'GP A,B,C,D', and 'TEMP' followed by a redacted area.</p>
<p>To comply with CSA certification for use in hazardous locations, the following information becomes a part of the product literature for this CSA-certified industrial control product:</p> <ul style="list-style-type: none"> • This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only. • The products having the appropriate CSA markings (that is, Class I, Division 2, Groups A, B, C, D) are certified for use in other equipment where the suitability of combination (that is, application or use) is determined by the CSA or the local inspection office having jurisdiction. 	<p>Pour satisfaire à la certification CSA en environnements dangereux, les informations suivantes font partie intégrante de la documentation des produits de commande industrielle certifiés.</p> <ul style="list-style-type: none"> • Cet équipement ne convient qu'à une utilisation en environnements de Classe 1, Division 2, Groupes A, B, C, D ou non dangereux. • Les produits portant le marquage CSA approprié (c'est-à-dire Classe 1, Division 2, Groupes A, B, C, D) sont certifiés pour une utilisation avec d'autres équipements, les combinaisons d'applications et d'utilisations étant déterminées par la CSA ou le bureau local d'inspection qualifié.
<p>IMPORTANT Due to the modular nature of a programmable control system, the product with the highest temperature rating determines the overall temperature code rating of a programmable control system in a Class I, Division 2 location. The temperature code rating is marked on the product label as shown.</p>	<p>IMPORTANT De par la nature modulaire des systèmes de commande programmables, le produit ayant le code de température le plus élevé détermine le code de température global du système dans un environnement de Classe 1, Division 2. Le code de température est indiqué sur l'étiquette produit.</p>
<p>Temperature code rating:</p>  <p>The image shows a label with the CSA logo, 'CL I, DIV 2', 'GP A,B,C,D', and 'TEMP' followed by a redacted area. Below it, the text 'Look for temperature code rating here.' is present.</p>	<p>Code de température :</p>  <p>The image shows a label with the CSA logo, 'CL I, DIV 2', 'GP A,B,C,D', and 'TEMP' followed by a redacted area. Below it, the text 'Le code de température est indiqué ici.' is present.</p>
<p>The following warnings apply to products having CSA certification for use in hazardous locations.</p> <p>WARNING</p>  <p>Explosion hazard!</p> <ul style="list-style-type: none"> • Substitution of components may impair suitability for Class I, Division 2. • Do not replace components unless power has been switched off or the area is known to be non-hazardous. • Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous. • Do not disconnect connectors unless power has been switched off or the area is known to be non-hazardous. Secure any user-supplied connectors that mate to external circuits on this equipment by using screws, sliding latches, threaded connectors, or other means such that any connection can withstand a 15 Newton (3.4 lb) separating force applied for a minimum of one minute. • If the Product contains batteries, they must only be changed in an area known to be non-hazardous. 	<p>Les avertissements suivants s'appliquent aux produits ayant la certification CSA pour une utilisation en environnements dangereux.</p> <p>AVERTISSEMENT</p>  <p>Risque d'explosion</p> <ul style="list-style-type: none"> • La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnements de Classe 1, Division 2. • Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de remplacer des composants. • 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 fournis par l'utilisateur pour se brancher aux circuits externes de cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres, de sorte que les connexions résistent à une force de séparation de 15 Newtons (1,5 kg - 3,4 lb.) appliquée pendant au moins une minute. • S'assurer que l'environnement est classé non dangereux avant de changer les piles.
<p>CSA logo is a registered trademark of the Canadian Standards Association.</p>	<p>Le sigle CSA est une marque déposée de l'Association des Standards pour le Canada.</p>

Allen-Bradley is a trademark of Rockwell Automation.

Reach us now at www.rockwellautomation.com

Wherever you need us, Rockwell Automation brings together leading brands in industrial automation including Allen-Bradley controls, Reliance Electric power transmission products, Dodge mechanical power transmission components, and Rockwell Software. Rockwell Automation's unique, flexible approach to helping customers achieve a competitive advantage is supported by thousands of authorized partners, distributors and system integrators around the world.

Americas Headquarters, 1201 South Second Street, Milwaukee, WI 53204, USA, Tel: (1) 414 382-2000, Fax: (1) 414 382-4444
European Headquarters SA/NV, avenue Herrmann Debroux, 46, 1160 Brussels, Belgium, Tel: (32) 2 663 06 00, Fax: (32) 2 663 06 40
Asia Pacific Headquarters, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846



**Rockwell
Automation**

Publication 1771-IN074A-EN-P - July 2001

PN 957555-92

© 2001 Rockwell Automation. Printed in the U.S.A.