

Communications Modules

IC697CMM712

GFK-1039B
August 1997

Serial Communications Module for State Logic CPU

Features

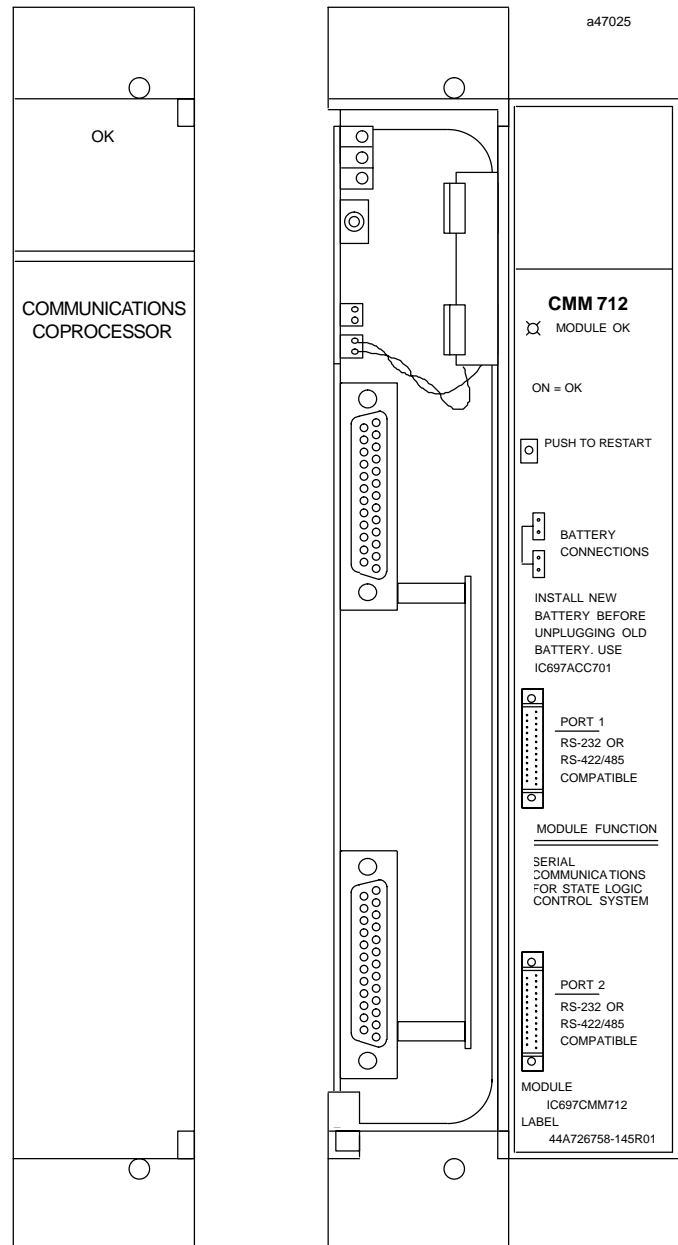
- Single slot Serial Communications for State Logic CPU
- No programming required
- CCM2 Protocol (slave only)
- 12 Mhz, 80C186 microprocessor
- Two RS-422/RS-485 or RS-232 serial ports
- Reset pushbutton
- One Status LED
- Soft Configuration (No dip switches or jumpers) using IC641 (MS-DOS) programming software configuration function
- Simultaneous communications on both ports at up to 19.2 Kbaud
- Provides Serial Communications for State Logic Control System
- All necessary memory supplied with module

Functions

The Serial Communications Module (SCM) provides I/O ports for serial communications to the State Logic Control System. The State Logic CPU control system program uses the SCM to receive input from a serial device and to transmit information to a serial device.

Each module provides two ports that may each be configured to be RS-232 or RS-422/RS-485 ports. The State Logic Control System supports up to four Serial Communications Modules providing a capacity of a total of eight serial ports. The Serial Communications Modules are inserted in slots 2 through 5 of rack 0.

One of the eight ports may be a CCM2 port. An expanded form of the CCM2 protocol is supported providing read/write capability for analog input and output values, %M internal flags, and current States of Tasks, in addition to the normal discrete inputs and outputs, and variable values. Additional functionality is provided for custom CCM communication programs.



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Installation

- Installation should not be attempted without referring to the applicable *Programmable Controller Installation Manual* (see reference 3) and *State Logic Control System User's Manual* (see reference 1).
- Make sure rack power is off.
- Connect the battery to either of the battery connectors on the module. (See Figure 2)
- Install in slots 2 through 5 of rack 0 (see Figure 1).
- Turn on power.

The module should power up and blink the top LED. When the diagnostics have completed successfully the top LED stays on.

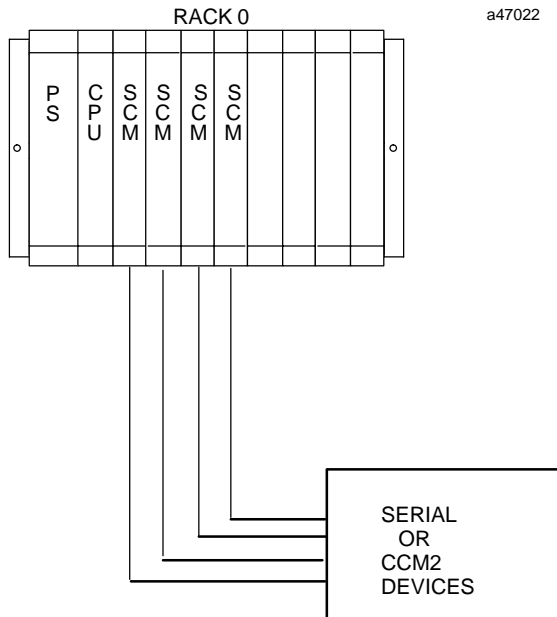


Figure 1. Typical PLC System Configuration

Memory

The Serial Communications Module does not require a memory expansion daughter board. All necessary memory is provided with the module.

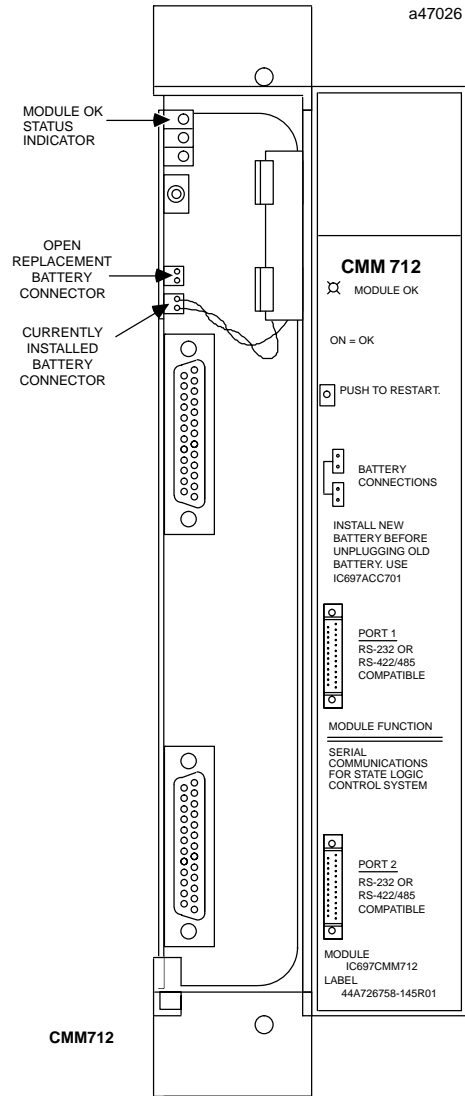


Figure 2. Serial Communications Module User Details

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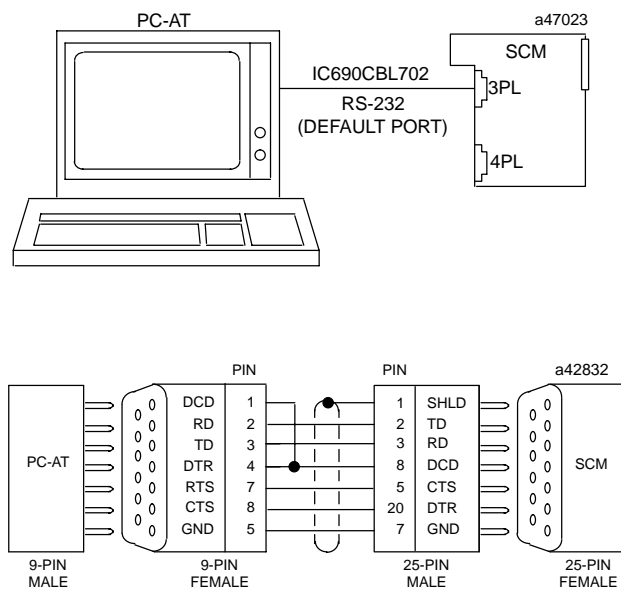


Figure 3. Connection to PC Serial Port

Serial Ports

Both ports are RS-232 and RS-422/RS-485 compatible. Both ports acting simultaneously can each support up to 19.2 Kbaud full duplex data communications.

Port 1 (3PL) and Port 2 (4PL)

Connectors 3PL and 4PL contain signals for both RS-232 and RS-422/RS-485 types of communication circuits. The pin-out for the RS-232 signals are per the RS-232 specification with an exception that pins not normally used for RS-232 are used for RS-422/RS-485 signals. Details are shown in tables 1 and 2.

Table 1. Port 1 or 2 RS-232 Signals

PIN	FUNCTION	SIGNAL NAME	I/O
1	Shield	-	-
2	Transmitted Data	TD	Output
3	Received Data	RD	Input
4	Request To Send	RTS	Output
5	Clear To Send	CTS	Input
7	Signal Ground	0V	-
8	Data Carrier Detect	DCD	Input
20	Data Terminal Ready	DTR	Output

Table 2. Port 1 or 2 RS-422/RS-485 Signals

PIN	FUNCTION	SIGNAL NAME	I/O
9	Send Data (A)	SD (A)	Output
10	Request to Send (A)	RTS (A)	Output
11	Clear to Send (A)	CTS (A)	Input
12	Termination for pin 13	-	-
13	Receive Data (A)	RD (A)	Input
21	Send Data (B)	SD (B)	Output
22	Request to Send (B)	RST (B)	Output
23	Clear to Send (B)	CTS (B)	Input
24	Termination for pin 23	-	-
25	Receive Data (B)	RD (B)	Input

Configuration

There are no DIP switches or jumpers on this module for configuration. Use the IC641 (MS-DOS) programming software configuration function to configure the State Logic CPU for this module. **Configure this module as catalog number IC697PCM711 with Configuration Mode set to PCM CFG.**

The SCM is installed in slots 2 through 5 of rack 0. The following table explains the correlation between the slot number and the port number used in the State Logic program.

Table 3. Slot to Port Number Correlation

SLOTNUMBER	PORTNUMBER
2	1 and 2
3	3 and 4
4	5 and 6
5	7 and 8

Status Indication

One Status LED is available as shown in Figure 2. This LED indicates the condition of the module.

Controls

One pushbutton is provided. Push and hold for less than 5 seconds to reset the module. Push and hold for more than 5 seconds and the module factory default configuration will be installed which may require the State Logic program to be reloaded.

Batteries

A lithium battery (IC697ACC701) is installed as shown in figure 2. This battery maintains serial port configuration information when power is removed. Be sure to install the new battery before removing the old battery. If during power-up diagnostics a low battery is detected the Module OK LED (top) will not stay on.

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Table 4. References

Reference	Title
1	State Logic Control System User's Manual
2	Programmable Controller Reference Manual
3	Programmable Controller Installation Manual

Table 5. Specifications for IC697CMM712 †

Battery:	
Shelf life	10 years at 20°C (68°F)
Memory retention	6 months nominal without applied power.
Serial Ports	RS-232/RS-422/RS-485 compatible
Current Required from +5 VDC Backplane Bus	0.7 amps
VME	System designed to support the VME standard C.1

† Refer to GFK-0867B, or later for product standards and general specifications. For installations requiring compliance to more stringent requirements (for example, European Union), refer to *Installation requirements for Conformance to Standards*.

Table 6. Ordering Information

Description	Catalog Number
Serial Communications Module for State Logic, 12 Mhz, 20 Kbyte	IC697CMM712
Lithium Battery	IC697ACC701

Note: For Conformal Coat option, or Low Temperature Testing option please consult the factory for price and availability.