

DL05/06 PROFIBUS™ Slave Comm. Module

PROFIBUS Slave Communications Module

H0-PSCM <--->



Overview

You can now add a DL05/06 PLC I/O sub-system to a PROFIBUS™ controller network. The H0-PSCM module allows the DL05/06 I/O sub-system to be linked with a PROFIBUS master controller. Profibus is a control bus that provides a common method to connect automation equipment with devices on a single network and significantly reduces hard-wiring costs. PROFIBUS provides specifications for information exchanged between nodes, such as controller data associated with low level devices and configuration parameters that are individually related to system operations.

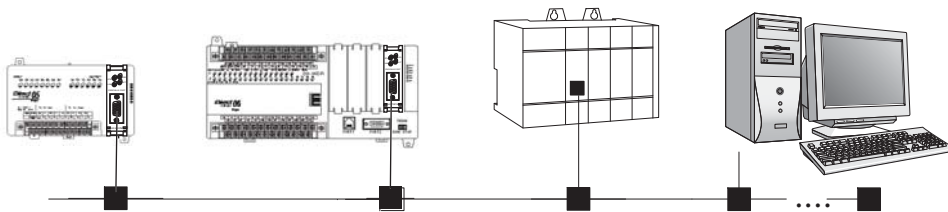
How it works

The H0-PSCM module is a PROFIBUS slave device which can be inserted into the option slot of a DL05 or a DL06 PLC. The H0-PSCM module is used to transfer blocks of data between a PROFIBUS master and a DL05/06 PLC. The user can choose up to four blocks of data to be transferred. The data blocks can range in size from 1 byte to 32 words and can be either input or output data. The data blocks can be mapped to real I/O within the PLC or user data areas of memory. The H0-PSCM module uses 'config' and 'parm' data, configured by the user with a program such as COM PROFIBUS, to determine what data types and addresses are to be transferred onto the PROFIBUS network. Once configured, the H0-PSCM will continually transfer the data to/from the PLC.

Specifications	
Module Location	PLC option slot
Module Type	Interface device
Maximum Expansion	126 stations, 32 stations per segment, 9 repeaters in a row
Communications	RS-485 PROFIBUS, PROFIBUS-DP. Baud rate selectable from 9.6Kbaud to 12M baud.
Module Connectors	PROFIBUS 9-pin D-shell, RJ-12 serial (firmware update only)
Internal Power Consumption	530mA maximum at 5VDC (supplied by PLC power supply)
Operating Environment	0°C to 60°C (32°F to 140°F), 5% to 95% humidity (non-condensing)
Manufacturer	Host Automation Products, LLC

CPU	Firmware Required	DirectSOFT Required
DL05	Version 4.60 or later	Version 3.0c or later
DL06	Version 1.40 or later	Version 4.0, Build 16 or later

Connect our DL05 or DL06 I/O...



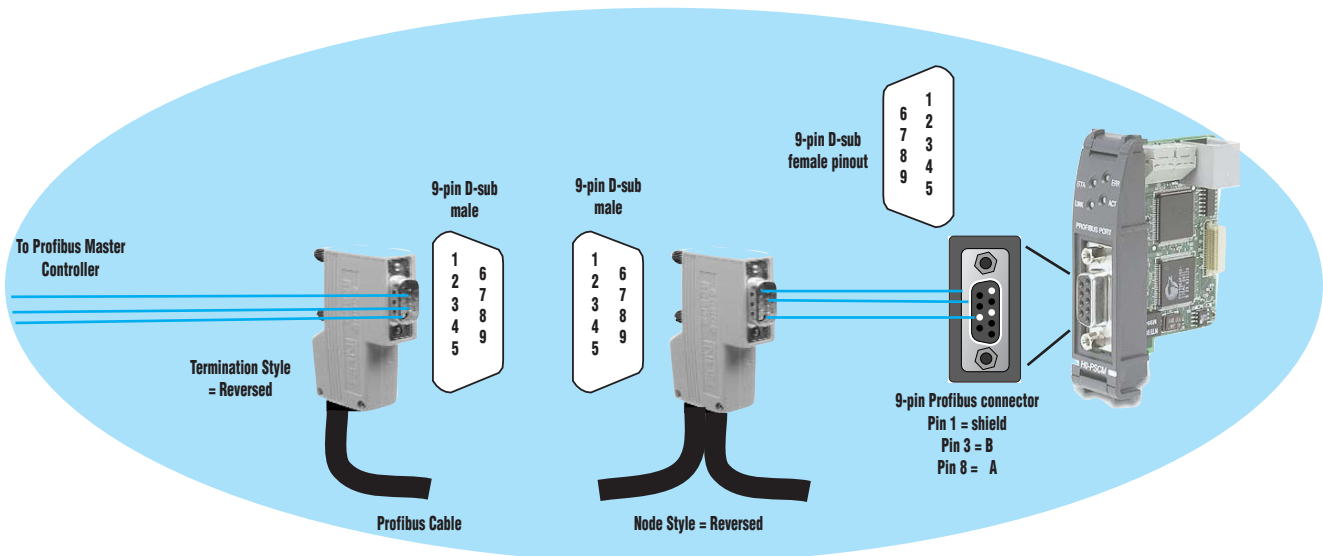
... to your PLC or PC based PROFIBUS Master.

HX-PSCM-M, the H0-PSCM PROFIBUS Slave Communications Module User Manual contains information pertaining to the I/O modules, power budgeting, installation and wiring.

DL05/06 PROFIBUS Slave Comm. Module

Baud	Max. Segment Length		Max. Expansion	
	Feet	Meters	Feet	Meters
9.6 Kbps	3278	1000	32786	10000
19.2 Kbps	3278	1000	32786	10000
93.75 Kbps	3278	1000	32786	10000
187.5 Kbps	3278	1000	32786	10000
500 Kbps	1311	400	13114	4000
1.5 Mbps	655	200	6557	2000
3 Mbps	327	100	3270	1000
6 Mbps	327	100	3270	1000
12 Mbps	327	100	3270	1000

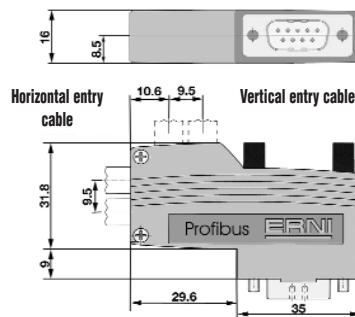
Recommended Cables	
Siemens	6XV1 830 0AH10
Belden	3079A



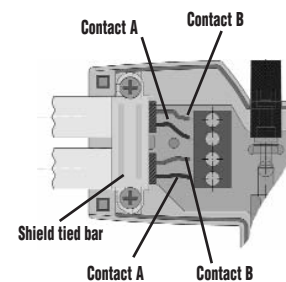
ERNI ERbic connectors for PROFIBUS networks

ERNI ERbic connectors are available for the PROFIBUS Slave Communications Module. They are available in node and termination reversed styles for the H0-PSCM and PC connections, horizontal or vertical cable entry, and termination or daisy-chain configurations.

ERNI ERbic connectors		
Part No.	Description	Device
103658	PROFIBUS-certified reverse node horizontal connector. 9-pin Male D-Sub	H2-PBC or any PROFIBUS ISA/PCI Personal Computer Master/Slave Card
103659	PROFIBUS-certified reversed termination horizontal connector. 9-pin Male D-Sub	H2-PBC or any PROFIBUS ISA/PCI Personal Computer Master/Slave Card



Note: Dimensions are in millimeters.



Power Budgeting for the DL06

The DL06 has four option module slots. To determine whether the combination of modules you select will have sufficient power, you will need to perform a power budget calculation.

Power supplied

Power is supplied from two sources: the internal base unit power supply and, if required, an external supply (customer furnished). The D0-06xx (AC powered) PLCs supply a limited amount of 24 VDC power. The 24 VDC output can be used to power external devices.

For power budgeting, start by considering the power supplied by the base unit. All DL06 PLCs supply the same amount of 5 VDC power. Only the AC units offer 24 VDC auxiliary power.

Be aware of the trade-off between 5 VDC power and 24 VDC power. The amount of 5 VDC power available depends on the amount of 24 VDC power being used, and the amount of 24 VDC power available depends on the amount of 5 VDC power consumed. Determine the amount of internally supplied power from the table to the right.

Power required by base unit

Because of the different I/O configurations available in the DL06 family, the power consumed by the base unit itself varies from model to model. Subtract the amount of power required by the base unit from the amount of power supplied by the base unit. Be sure to subtract 5 VDC and 24 VDC amounts.

Power required by option modules

Next, subtract the amount of power required by the option modules you are planning to use. Again, remember to subtract both 5 VDC and 24 VDC.

If your power budget analysis shows surplus power available, you should have a workable configuration.

DL06 Power Supplied by Base Units		
Part Number	5 VDC (mA)	24 VDC (mA)
D0-06xx	1500mA	300mA
	2000mA	200mA
D0-06xx-D	1500mA	none

DL06 Base Unit Power Required		
Part Number	5 VDC (mA)	24 VDC (mA)
D0-06AA	800mA	none
D0-06AR	900mA	none
D0-06DA	800mA	none
D0-06DD1	600mA	280mA*
D0-06DD2	600mA	none
D0-06DR	950mA	none
D0-06DD1-D	600mA	none
D0-06DD2-D	600mA	none
D0-06DR-D	950mA	none

* Only if auxiliary 24VDC power is connected to V+ terminal.

DL06 Power Consumed by Other Devices		
Part Number	5 VDC (mA)	24 VDC (mA)
D0-06LCD	50mA	none
D2-HPP	200mA	none
DV-1000	150mA	none
C-more Micro-Graphic	210mA	none

Power Budgeting Example		
Power Source	5VDC power (mA)	24VDC power (mA)
D0-06DD1 (select row A or B)	A	1500mA
	B	2000mA
		300mA
Current Required	5VDC power (mA)	24VDC power (mA)
D0-06DD1	600mA	280mA*
D0-16ND3	35mA	0
D0-10TD1	150mA	0
D0-08TR	280mA	0
F0-4AD2DA-1	100mA	0
D0-06LCD	50mA	0
Total Used	1215mA	280mA
Remaining	A	285mA
	B	785mA
		20mA
		note 1

* Auxiliary 24 VDC used to power V+ terminal of D0-06DD1 sinking outputs.

Note 1: If the PLC's auxiliary 24 VDC power source is used to power the sinking outputs, use power choice A, above.

DL05/06 Power Consumed by Option Modules		
Part Number	5 VDC (mA)	24 VDC (mA)
D0-07CDR	130mA	none
D0-08CDD1	100mA	none
D0-08TR	280mA	none
D0-10ND3	35mA	none
D0-10ND3F	35mA	none
D0-10TD1	150mA	none
D0-10TD2	150mA	none
D0-16ND3	35mA	none
D0-16TD1	200mA	none
D0-16TD2	200mA	none
F0-04TRS	250mA	none
F0-08NA-1	5mA	none
F0-04AD-1	50mA	none
F0-04AD-2	75mA	none
F0-08ADH-1	25mA	25mA
F0-08ADH-2	25mA	25mA
F0-04DAH-1	25mA	150mA
F0-08DAH-1	25mA	220mA
F0-04DAH-2	25mA	30mA
F0-08DAH-2	25mA	30mA
F0-2AD2DA-2	50mA	30mA
F0-4AD2DA-1	100mA	40mA
F0-4AD2DA-2	100mA	none
F0-04RTD	70mA	none
F0-04THM	30mA	none
D0-DEVNETS	45mA	none
H0-PSCM	530mA	none
H0-ECOM	250mA	none
H0-CTRIO	250mA	none
H0-ECOM100	300mA	none
F0-08SIM	1mA	none
D0-DCM	250 mA	none
F0-CP128	150 mA	none
F0-08SIM	1 mA	none