

P2 Configuration Guide

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1. Physical Connections

The B1285-P2 module has a single RS232 connector, a single RS485 connector, and three Ethernet connectors. The Ethernet connectors allow connection onto two separate networks with unique network address and subnet masks.

The PLC NETWORK has two connectors that are bridged together. This allows daisy-chain or ring networks to be configured. When "One Network" is selected in the configuration software a single network cable can be plugged into either the A or B connector of the PLC Network. All communications are available on this network connection:

ModbusTCP EtherNet/IP Webserver Email PC Link Configuration Software

ProTalk LINK Database				
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HARDWARE 2 OPERATION 3 CONNECT Add / Remove (0) B1285-M1	Module Properties: B1285-P2 Module Settings	PLC Comm Settings Modbus/TCP Indus/TCP In	Assembly	Email / Web Server
(6) B1285-F2	Module I/O Address 0-1 1 40001 0-2 2 40002 0-3 3 40003 0-4 4 40004	Name Input Supply Power Failure System Alam Module Major	Type Voltage Input Digital Input Internal Status Internal Status	PLC and Email/Web Network Addressing Device IP Addr. 010.010.011.002 Subnet Mask. 255.255.255.000 Default Gateway. 010.010.011.1280 DNS Server. 010.010.011.1281
	0-5 5 40005 0-6 1 40006 0-7 2 40007 0-8 40009 0-10 0-9 40009 0-10 0-11 40011 0-112 0-12 40013 0-13 0-14 40014 0-15 0-15 40015 0-16	Module Minor Auto Reley 1 Auto Reley 2 Active Shift Group 1 Status Group 2 Status Group 3 Status Group 4 Status Group 6 Status Group 6 Status Group 7 Status Group 7 Status	Internal Status Auto Relay Shift Status Group Status Group Status Group Status Group Status Group Status Group Status Group Status Group Status Group Status	When configured for ONE metwork, all contections are to be made through one or ball, we port. The Email/Web port is not used.

Figure 1-1: Single Ethernet Configuration

The EMAIL/WEB connector is used when "Use separate networks" is selected in the Link Configuration software. Using this configuration, cables from 2 separate networks are connected to the P2 module, one to the Email/Web connector and the other to either the A or B connector of the PLC Network. This setup is typically used when the PLC's are on an isolated internal network and e-mail alarm notifications to an external server are required.

The following are the connections available for each network.

PLC NETWORK:

Modbus TCP EtherNet/IP PC Link Configuration Software E-mail (if email server on this network specified) Web Server (page 35)

EMAIL/WEB:

PC Link Configuration Software E-mail (if external email server specified) Web Server (page 35)

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1 HARDWARE 2 OPERATION 3 CONNECT Add / Remove (0) (0) B1285411 (2) B128542	•	Properties: B1285 Module Settings EtherNet/IP	P2 (address=2) PLC Comm Settin • Modbus/TCP 0.010.111.002	RS232 F Generic I/O Adapter Connection	Size 2 83 B1285-P2 Network Properties
	, <u> </u>				PLC Network Addressing
(6) B1285-T1	Ref L		Name	Туре	Device IP Addr: 010.010.111.002
	0-1 1	40001	Input Supply	Voltage Input	Subnet Mask: 255.255.000
	0-2 2	40002	Power Failure	Digital Input	
	0-3 3	40003	System Alarm	Internal Status	
	0-4 4	40004	Module Major	Internal Status	
	0-5 5	40005	Module Minor	Internal Status	
	0-6 1	40006	Auto Relay 1	Auto Relay	Email/Web Network Addressing
	0-7 2	40007	Auto Relay 2	Auto Relay	
	0-8	40008	Active Shift	Shift Status	During ID Atta True and and
	0-9	40009	Group 1 Status	Group Status	Device IP Addr: 010.010.222.001
	0-10	40010	Group 2 Status	Group Status	Subnet Mask: 255.255.255.000
	0-11	40011	Group 3 Status	Group Status	Default Gateway: 010.010.222.250
	0-12	40012	Group 4 Status	Group Status	
	0-13	40013	Group 5 Status	Group Status	DNS Server: 010.010.222.251
	0-14	40014	Group 6 Status	Group Status	
	0-15	40015	Group 7 Status	Group Status	OK Cancel
	0-16	40016	Group 8 Status	Group Status	
1	,				

Figure 1-2: Dual Ethernet Configuration

2. Protocol Assignments

The ProTalk Link is a modular system that supports 512 alarm points. These are divided into 32 blocks of 16 points. Each hardware module consumes one block with all the remaining blocks assigned to the P2 module. Each block assigned to the P2 module can be individually configured for connection to a remote PLC using a specified protocol where the default for each block is unassigned.

The P2 module can be configured to run one or several protocols simultaneously connecting to the remote equipment. The combinations are:

RS232:	
	Modbus RTU master, or
	Modbus RTU slave, or
	AB DF1 (both PLC5 and SLC500 series devices) -
	master only

plus RS485:

Modbus RTU master, or Modbus RTU slave, or AB DF1 (both PLC5 and SLC500 series devices) – master only

plus	Ethernet:
	Modbus TCP/IP master, or
	Modbus TCP/IP slave

plus Ethernet

EtherNet/IP

with the restriction that the same protocol cannot be run over both the RS232 and RS485 networks.

3. Remote Status and Control Registers - Master

Even when the system is configured to use a protocol where the PLC is a slave unit, there are provisions for the PLC to receive status information as well as write control values. This is useful where it is desired for the PLC to acknowledge alarms, for instance.

To accomplish this, 16 consecutive analog registers must be allocated in the PLC to reflect the 16 alarm points in the M1 module. Then, using the Configuration Software and navigating to the Block Address tab of the P2 module, set Block 0 for the protocol, the remote PLC ID, and the Start Address of this set of registers.

Now, during normal operation, nine points in the M1 module (the Active Shift and Group Statuses 1 through 8) will be written to the PLC beginning at the allocated registers' Start Address + 7 allowing the PLC to monitor the operating state of the Link system.

The address and contents of the status registers, as found in the M1 module, are shown in Table 3-1. These values will be regularly written to the PLC as part of the Link's polling cycle.

Ref	Name	Written to PLC Address	Value written to PLC
0-1	Write Control Register	Start + 0	Only write 0 to clear
0-2		Start + 1	Not written
0-3		Start + 2	Not written
0-4		Start + 3	Not written
0-5		Start + 4	Not written
0-6		Start + 5	Not written
0-7		Start + 6	Not written
0-8	Active Shift	Start + 7	1 to 8
0-9	Group 1 Status	Start + 8	0 to 3 *
0-10	Group 2 Status	Start + 9	0 to 3 *
0-11	Group 3 Status	Start + 10	0 to 3 *
0-12	Group 4 Status	Start + 11	0 to 3 *
0-13	Group 5 Status	Start + 12	0 to 3 *
0-14	Group 6 Status	Start + 13	0 to 3 *
0-15	Group 7 Status	Start + 14	0 to 3 *
0-16	Group 8 Status	Start + 15	0 to 3 *

Table 3-1: Status registers written to the PLC

* Group Status value:

0 = Disabled

1 = Idle

2 = A larming

3 = Acknowledged

The register located at the Start Address + 0 is used by the PLC to send control signals into the Link system. This register contains a 16-bit number interpreted where the lower 8 bits contain the destination point in the Link alarm memory and the upper 8 bits contain the new value.

- bits 0..7 = point offset, calculated as (block * 16) + point ref offset
- bits 8..15 = new value (0 to 255)

The address and contents of register used by the Link system for control is shown in Table 3-2. This value will be continuously read as part of the polling cycle. If a non-zero value is detected, the Link attempts to execute the control and then re-writes the register to zero indicating completion (whether the request was valid or not).

Table 3-2: Control register read from the PLC

Ref	Name	PLC Address	Read Value
0-1	Write Control Register	Start + 0	Only write 0 to clear

As an example, for the PLC to change the active shift to using Shift 4:

- Current Shift is at Ref 0-8, so offset = (0*16) + 8 = 0x08
- New shift value = 0x04
- Register = Value | offset = 0x 04 | 08 = 0x0408

Hardware Operat			P							
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HARDWARE	Module	Properties	B1285-P2	2 (address=2)						
The Difference		Module Set	tinon	PLC Com	Cottione	Block Addre	ses.	Emai	/ Web Server	
OPERATION			Poling	1 1 20 00111	Type	IP Address	PLC I	Start		
OPERATION		Module					PLC		<u> </u>	
1	0	M1 P2	Modbus	TCP Master	analog	0.0.0.0	1	4000	1	
CONNECT	$\frac{1}{2}$	P2 P2	· ·		unused	•	-	_		
	2 3	P2 P2	-		unused	•				
	4	P2 P2	-		unused		-	-		
Add / Remove	4 5	P2 P2	-		unused					
	6	T1	· ·		unused					
(0) B1285-M1	0									
	7	0.0								
 (2) B1285-P2 (6) B1285-T1 	7 Module	P2			unused		-			
	Module		ess	Name	unused	Type	-	Group	Description	
	Module	1/0		Name Input Supply	unused	Voltage Input		Group	Description	
	Module Ref 0-1	1/0 1/0 Addr 1 4000 2 4000)1)2							
	Module Ref 0-1 0-2 0-3	1/0 1/0 Addr 1 4000 2 4000 3 4000)1)2)3	Input Supply Power Failure System Alarm	\$ 1	Voltage Input Digital Input Internal Status			disabled disabled Internally generated	
	Module Ref 0-1 0-2 0-3 0-4	1/0 1/0 Addm 1 4000 2 4000 3 4000 4 4000	01 02 03 04	Input Supply Power Failure System Alarm Module Major	5 1 7	Voltage Input Digital Input Internal Status Internal Status		•	disabled disabled Internally generated Internally generated	
	Module Ref 0-1 0-2 0-3 0-4 0-5	1/0 1/0 Addm 1 4000 2 4000 3 4000 4 4000 5 4000	01 02 03 04 05	Input Supply Power Failure System Alarm Module Major Module Minor	5 1 7	Voltage Input Digital Input Internal Status Internal Status Internal Status	-	•	disabled disabled Internally generated Internally generated Internally generated	
	Module Ref 0-1 0-2 0-3 0-4 0-5	1/0 Addm 1/0 Addm 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000	01 02 03 04 05 06	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1	а а Г Г	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay		•	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1	
	Module Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-6	1/0 Addr 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000 2 4000	01 02 03 04 05 06 07	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2	а а Г Г	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay		•	disabled disabled Internally generated Internally generated Internally generated New Alarm Exists in Group 1 Error Condition Exists	
	Module Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-6 0-6 0-7 0-8	1/0 1/0 Addin 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000 2 4000 1 4000	01 02 03 04 05 06 07 07 08	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift	р 1 Г Г	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status		•	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1 Error Condition Exists Current Snit	
	Module Ref 0-1 0-2 0-3 0-4 0-5 0-6 67 0-8 0-9 0-9	1/0 1/0 Addin 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000 2 4000 4 4000 4 4000	01 02 03 04 05 06 07 07 09	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Statu	2L	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status		•	disabled disabled htemally generated Internally generated Internally generated Internally generated Internally generated Rew Alam Exists in Group 1 Error Condition Exists Commit Shift Coded Status	
	Module Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-6 0-6 0-6 0-9 0-10	1/0 1/0 Addr 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000 4 4000 1 4000 4 4000 4 4000 1 4000 4 4000 1 4000 2 4000 3 4000 4 4000 1 4000 1 4000 2 4000 3 4000 4 4000 1 4000 5 4000 1 4000	01 02 03 04 05 06 07 09 09 10	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Statu Group 2 Statu	+ - - - - - - - - - - - - - - - - - - -	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status		•	deabled deabled internally generated internally generated internally generated internally generated New Nam Exists in Group 1 Error Condition Exists Guarnet Sritt Coded Status	
	Module Ref 01 0-2 0-3 0-4 0-5 0-6 0-7 0-9 0-9 0-10 0-11	1/0 1/0 Addr 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000 4 4000	01 02 03 04 05 06 07 07 09 09 10 11	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Statt Group 2 Statt Group 3 Statt	e 7 7 19 19 19 19	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status		•	debled desbled internally generated internally generated internally generated Internally generated New Nam Exists a Group 1 Entro Condition Exists Conder Status Coded Status Coded Status	
	Module Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-6 0-7 0-6 0-7 0-9 0-0 0-10 0-11 0-12	L/O L/O Addr 1 4000 2 4000 3 4000 5 4000 1 4000 5 4000 4 4000 4 4000 4 4000 4 4000 4 4000 4 4000 4 4000 4 4000	01 12 13 14 05 06 07 09 10 11 12	Input Supply Power Failure System Alarm Module Minor Mudoule Minor Auto Relay 1 Auto Relay 1 Auto Relay 1 Autor Polay Group 1 Statt Group 3 Statt Group 3 Statt Group 3 Statt	5 7 7 18 18 18 18 18	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status Group Status		•	disabiled disabiled Hermally generated Hermally generated Hermally generated Emror Canditon Forte Emror Canditon Forte Coded Status Coded Status Coded Status Coded Status Coded Status	
	Module Ref 01 0-2 0-3 0-4 0-5 0-6 0-7 0-9 0-9 0-10 0-11	1/0 1/0 Addr 1 4000 2 4000 3 4000 4 4000 5 4000 1 4000 4 4000	11 12 13 13 14 15 16 17 18 19 19 10 11 12 13	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Statt Group 2 Statt Group 3 Statt	5 7 7 15 15 15 15 15 15 15 15 15 15	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status		•	debled desbled internally generated internally generated internally generated Internally generated New Nam Exists a Group 1 Entro Condition Exists Conder Status Coded Status Coded Status	

Figure 3-1: Active Shift is at Ref 0-8 and Control Register is Modbus address 40001.

Other points in the ProTalk LINK system can be read or written the same way using the same destination formula. Common examples might be:

Acknowledge Group 1:

- Group 1 Status = Ref 0-9, offset 9 (0*16) + 9 = 0x09
- New value = 3 (acknowledge) (note: this is the only permitted value)
- Write register value = $0x \ 03 | 09 = 0x \ 0309$
- Turn on Relay 2 of a T1 module found at block position 6:
 - Relay output 104 = Ref 6-10, offset = (6*16) + 10 = 0x6A
 - \circ New value = 1 (on)
 - Write register value = 0x 01 | 6A = 0x016A

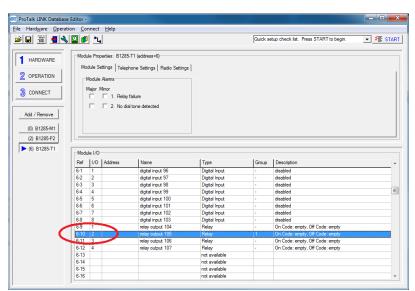


Figure 3-2: Relay 2 is at Ref 6-10

4. Remote Status and Control Registers – Slave/Server

When configured as a Modus TCP slave, Modbus RTU slave, or EtherNet/IP Adapter, the Link presents to the PLC a fixed address for each block.

For Modbus, the block zero registers 40001 to 40016 can all be read by the PLC and registers 40008 to 40016 can be written to change shifts and acknowledge alarms.

The value of the Group Status register can be interpreted as:

- 0 = disabled
- -1 = Idle
- 2 = Alarming
- 3 = Acknowledged (note: this is the only value that can be written)

For example, if you wanted to acknowledge the alarms in group 2, the PLC would write 0x03 to Modbus address 40010.

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	Moduk	Propertie	s: B1285-P2	(address=2)						
HARDWARE									,	
		Module S	-	PLC Com	n Settings	Block Addres	1	Email	/ Web Server	
2 OPERATION	Block	: Module	Poling		Туре	IP Address	PLC ID	Start		*
	0	M1	Modbus 1	TCP Slave	analog	10.10.111.2	1	4000	1	E
CONNECT	1	P2	-		unused		-	-		
	2	P2	-		unused		-	-		
	3	P2	-		unused		-	-		
Add / Remove	4	P2	-		unused		-	-		
7 dd 7 Homoro	5	P2	-		unused		-	-		
(0) B1285-M1	6	T1	-		-		-	-		
(c) B1285-P2	7	P2			unused		-	-		-
			dress	Name		Type		Group	Description	
	0-1	1 400						Group	Dooonpaon	
				Input Supply		Voltage Input		-	disabled	
		2 400	002	Input Supply Power Failur	,					
	0-2 0-3	2 400 3 400	002 003	Power Failur System Alam	1	Voltage Input Digital Input Internal Status		-	disabled disabled Internally generated	
	0-2 0-3	2 400	002 003	Power Failur	1	Voltage Input Digital Input		-	disabled disabled	
	0-2 0-3 0-4	2 400 3 400	002 003 004	Power Failur System Alam	n r	Voltage Input Digital Input Internal Status Internal Status Internal Status		-	disabled disabled Internally generated Internally generated Internally generated	
	0-2 0-3 0-4 0-5 0-6	2 400 3 400 4 400 5 400 1 400	002 003 004 005 006	Power Failur System Alam Module Majo Module Mino Auto Relay 1	r r	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay		-	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1	
	0-2 0-3 0-4 0-5 0-6 0-7	2 400 3 400 4 400 5 400 1 400 2 400	002 003 004 005 006 007	Power Failur System Alam Module Majo Module Mino Auto Relay 1 Auto Relay 2	r r	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay		-	disabled disabled Internally generated Internally generated Internally generated New Alarm Exists in Group 1 Eror Condition Exists	
	0-2 0-3 0-4 0-5 0-6 0-7 0-8	2 400 3 400 4 400 5 400 1 400 2 400 400	002 003 004 005 006 007 008	Power Failure System Alam Module Majo Module Mino Auto Relay 1 Auto Relay 2 Active Shift	r r	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status		-	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1 Error Condition Exists Current Shift	
	0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9	2 400 3 400 4 400 5 400 1 400 2 400 400 400	002 003 004 005 006 007 008 009	Power Failure System Alam Module Majo Module Mino Auto Relay 1 Auto Relay 2 Active Shift Group 1 Stat	r r	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status		-	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1 Error Condition Exists Current Shift Coded Status	
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Figure 4-1: Acknowledge Group 2 by writing to Modbus address 40010.

For EtherNet/IP, Assembly 101 or 110 map over Block 0 and the values written to locations data[7] to data[15] will initiate a control operation.

5. Modbus TCP/IP Master

On any Modbus network, queries are initiated by a single master device and responded to by one of possibly many slave devices. The ProTalk Link B1285-P2 module can be configured to be the Modbus master device using an Ethernet network (Modbus TCP/IP) communicating to one or many slave devices.

Protocol	LED	State	Description
TCP Master	TCP	Off	Protocol is not used
		Yellow	Receive an invalid response
		Green	Receive a valid response
		Red	Transmit a query

When the ProTalk Link module is configured as the master device, it regularly reads from remote devices to obtain the data that will be evaluated for alarm conditions. In this configuration, the PLC program does not need to be modified; the ProTalk Link is programmed with the location of the relevant data in the remote slave PLCs.

The ProTalk Link can monitor 512 alarms that are divided into 32 blocks. A few of these blocks will be populated by local I/O in the Link hardware. The remainder are available to create alarms from the memory contents of remote PLCs.

The alarm data can be read as a discrete value where the value dictates alarming or not, or the data can be read as an integer value. The ProTalk Link compares the integer against programmed setpoints and generates alarm conditions if the value is considered too high or too low.

A hybrid type (bit array) makes all 16 points in the block Input Bit types but communicates with the PLC using a register message. The 16-bit register value is in bit-packed format where the least significant bit maps to the first alarm in the block.

As a master device, the B1285-P2 polls remote devices using the following rules:

- One poll for each block with enabled alarms
- The poll length is calculated from the starting address of the block to the highest enabled alarm in the block
- TCP sockets are opened as needed and remain open
- TCP sockets are closed on no-response or an exception response
- the Poll Interval is the time from a valid response to the start of a new query

The following example illustrates polling for Modbus Coil type alarms. Here, the B1285-P2 will poll for 5 bits starting at address 00033. (start address of block to highest enabled alarm)

a sound a second a	20 2					Quick setup check list. Press START to begin.	• *E
ARDWARE	Module Properties: B128	5-P2 (address=2)					
GANDWARE	Madule Settings	PLC Comm Settings	Bock Addresse		Court of	Wab Server	
PERATION	Block Module Polir				Sart 2	Aven perver	
PERATION		g Type	IP Address	PLC ID	Start		
	0 M1 -						
ONNECT	1 T1 -	and the second s	A	÷			
		xus TCP Master bit	10.0.101.11	1	00033		
	3 P2 -	unused					
/ Remove	4 P2 -	unused					
	5 P2 -	unused	*				
B1285-M1	6 P2 -	unused	-				
B1285-T1	7 92	uniand	<u>+</u>		1+		
	Ref 1/0 Address	Name	Туре	G		Description	
	2-1 1 00033	PLC digital 32 PLC digital 33	PLC Bit Register			disabled	
	2.3 3 00035	PLC digital 33 PLC digital 34	PLC Bt Register PLC Bt Register	1		Nam when input is 1, momentary operation deabled	
	2-4 4 00035	PLC digital 34 PLC digital 35	PLC Bit Register			disabled	
	2.5 5 00037	PLC digital 36	PLC Bt Register			association Alam when input is 1, momentary operation	
	2.6 6 00038	Piccogram and	PLC Bt Register			disabled	
	2-7 7 00039	PLC digital 38	PLC Bit Register			dishied	
			PLC Bt Register			daabled	
						deabled	
		PLC digital 39 PLC digital 40	PLC Bt Register				
	2-8 8 00040		PLC Bt Register PLC Bt Register			daabled	
	2-8 8 00040 2-9 9 00041	PLC digital 40					
	2-8 8 00040 2-9 9 00041 2-10 10 00042 2-11 11 00043 2-12 12 00044	PLC digital 40 PLC digital 41	PLC Bit Register			disabled	
	2-8 8 00040 2-9 9 00041 2-10 10 00042 2-11 11 00043 2-12 12 00044 2-13 13 00045	PLC digital 40 PLC digital 41 PLC digital 42	PLC Bit Register PLC Bit Register			daabled daabled daabled daabled	
	2-8 8 00040 2-9 9 00041 2-10 10 00042 2-11 11 00043 2-12 12 00044	PLC digital 40 PLC digital 41 PLC digital 42 PLC digital 42 PLC digital 43	PLC Bt Register PLC Bt Register PLC Bt Register			daabled daabled daabled	

Figure 5-1: Modbus TCP Master polls for 5 coils

6. Modbus TCP/IP Slave

On any Modbus network, queries are initiated by a single master device and responded to by one of possibly many slave devices. The ProTalk Link P2 module can be configured to be one of the Modbus slave devices using an Ethernet network (Modbus TCP/IP). This protocol can be assigned on individual blocks

Protocol	LED	State	Description
TCP Slave	TCP	Off	Protocol is not used
		Yellow	Transmit an exception response
		Green	Transmit a valid response
		Red	After 1 second of inactivity

When the B1285-P2 module is configured as a slave device, it is expected to receive Modbus write commands from a remote master that contains the alarm data. In this configuration, the remote PLC must be programmed to write alarm information on regular intervals or when a condition changes.

The ProTalk Link can monitor 512 alarms, divided into 32 blocks. A few of these blocks will be populated by local I/O in the Link hardware. The remainder are available to create alarms from the memory contents of remote PLCs.

The alarm data can be written as a discrete value (bit) where the value dictates alarming or not, or the data can be written as an integer value (analog). The ProTalk Link compares the integer against programmed setpoints and generates alarm conditions if the value is considered too high or too low.

A hybrid type (bit array) makes all 16 points in the block Input Bit types but communicates with the PLC using a register message. The 16-bit register value is in bit-packed format where the least significant bit maps to the first alarm in the block.

An alternate set of register addresses can be selected when assigning the block as a bit array. This allows multiple blocks to be accessed sequentially.

Where the B1285-P2 module is configured as a slave device, a block of alarms that is mapped to local I/O can be read or written to by a remote PLC. The hardwired inputs on a Link module (T1, W2, W3, D1, A1 modules) can be read by accessing the assigned memory location but cannot be written to. The hardwired outputs on a Link module, however, can be read or written to through the assigned memory location. Outputs are defined as the relays on T1, W2, or W3 modules and as the upper 9

locations on the M1 module (block 0) consisting of the Current Shift and the Group Statuses.

As a slave device, the B1285-P2 receives messages from remote devices:

- The following commands are supported:
 - READ_COILS
 - READ_HOLDING_REGISTERS
 - WRITE_SINGLE_REGISTER
 - WRITE_MULTIPLE_REGISTERS
 - WRITE_AND_READ_REGISTERS
 - WRITE_SINGLE_COIL
 - WRITE_MULTIPLE_COILS
- disabled alarms are still considered allocated memory
- Contiguous blocks can be read or written with a single read or write command
- exception responses are returned for invalid memory addresses and commands
- two TCP sockets are available for connection with remote devices

Bit Array blocks use a single register to represent 16 digital alarms. The default slave addressing places these registers 16 addresses apart. Multiple contiguous bit array blocks would require a separate Modbus poll for each block.

A duplicate set of contiguous registers is provided allowing a single read or write operation to span multiple bit array blocks. The duplicate registers can optionally be displayed as shown below.

	1					Quick setup check list. Press START to begin.
Mode	ule Properties: 812854	2 (address=2)				
	Module Settings	PLC Comm Settings	Block Addresses	Enal	/Web Server	
E In	ck Module Polina	Type	IP Address PLC	ID Set		
	and a second sec	type	P Address P Du	it/ som		
1	M1 -				~	
		TCP Slave bit array	10.0.50.168	and and	5 (and 40033)	ck Address XI Banda
		TCP Save bit array	10.0.50.168 1		6 (and 40049)	ack Address X
1		TCP Slave bit array	10.0.50.168 1		7 (and 40065) Block Re	derence
5		TCP Slave bit array	10.0.50.168 1		8 (and 40081) Block N	unber 2
6	P2 -	unused		1	Module	
7	P2 -	uniand	+ +			
					Alarm No.	mbers 2-1 to 2-16
	de VO					
10000					- Binck Co	municationa
Ref	10 million	Name	Туре	Group	Description	Modeus TCP Save
2.1	1 40515/0	PLC digital 32	PLC Bit Register		deabled	
2.2	2 40515/1	PLC digital 33	PLC Bt Register		disabled Date Typ	be bitaray 💌
	3 40515/2	PLC digital 34	PLC Bt Register		disabled	
2.3			PLC Bit Register		disabled	
2-4	4 40515/3	PLC digital 35			Electr Le	
2-4 2-5	4 40515/3 5 40515/4	PLC digital 36	PLC Bt Register		deabled Block Lo	
2-4 2-5 2-6	4 40515/3 5 40515/4 6 40515/5	PLC digital 36 PLC digital 37	PLC Bt Register PLC Bt Register	-	deabled IP Addre	an 010,000,050,150
2-4 2-5 2-6 2-7	4 40515/3 5 40515/4 6 40515/5 7 40515/6	PLC digital 36 PLC digital 37 PLC digital 38	PLC Bt Register PLC Bt Register PLC Bt Register	-	disbled IP Addre disbled IP Addre	as 010.000.050.150 An alternate set of recipitors a provided
2-4 2-5 2-6 2-7 2-8	4 40515/3 5 40515/4 6 40515/5 7 40515/6 8 40515/7	PLC digital 36 PLC digital 37 PLC digital 38 PLC digital 38 PLC digital 39	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register	*	disabled IP Addre disabled Unit ID disabled Unit ID	An attensate set of registering a provided
2-4 2-5 2-6 2-7 2-8 2-9	4 40515/3 5 40515/4 6 40515/5 7 40515/6 8 40515/7 9 40515/8	PLC digital 36 PLC digital 37 PLC digital 38 PLC digital 39 PLC digital 40	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register	2 4 4 4 4	desbred IP Addre desbred Unit ID desbred Unit ID desbred Start Adv	An attensite set of registers a provided accessed accessed at a constant of a second accessed accessed at a second accessed acces
2-4 2-5 2-6 2-7 2-8 2-9 2-10	4 40515/3 5 40515/4 6 40515/5 7 40515/6 8 40515/7 9 40515/8 10 40515/9	PLC digtal 36 PLC digtal 37 PLC digtal 38 PLC digtal 39 PLC digtal 40 PLC digtal 40 PLC digtal 41	PLC Bit Register PLC Bit Register PLC Bit Register PLC Bit Register PLC Bit Register PLC Bit Register	2 2 4 4 4 4 4	destried IP Addm disabled Unit ID disabled Unit ID disabled Sant Add disabled Ait Addm	An attentite set of Conception a provided Seese 10023 Seese 10023
2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11	4 40515/3 5 40515/4 6 40515/5 7 40515/6 8 40515/7 9 40515/7 10 40515/9 11 40515/10	PLC digital 36 PLC digital 37 PLC digital 38 PLC digital 39 PLC digital 40 PLC digital 41 PLC digital 41	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register	2 4 5 6 7 7 7	deshied deshied IP Addre deshied Unit ID deshied Sant Adi deshied Alt Adard deshied Alt Adard	An attensite set of registers a provided accessed accessed at a constant and accessed accessed at a constant accessed ac
2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12	4 40515/3 5 40515/4 6 40515/6 7 40515/6 8 40515/7 9 40515/7 10 40515/10 11 40515/10 12 40515/11	PLC digital 36 PLC digital 37 PLC digital 38 PLC digital 39 PLC digital 39 PLC digital 40 PLC digital 41 PLC digital 42 PLC digital 43	PLC Bit Register PLC Bit Register	8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	deabled deabled liP Addre deabled ubited Livet ID deabled Sant Adi deabled At Addre deabled At Addre	An attensite set of registers a provided accessed accessed at a constant and accessed accessed at a constant accessed ac
24 25 26 27 28 29 210 211 212 213	4 40515/3 5 40515/4 6 40515/5 7 40515/6 8 40515/7 9 40515/7 10 40515/7 11 40515/11 12 40515/11 12 40515/12	PLC digital 36 PLC digital 37 PLC digital 38 PLC digital 38 PLC digital 40 PLC digital 40 PLC digital 41 PLC digital 42 PLC digital 43 PLC digital 44	PLC Bit Register PLC Bit Register	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	debied debied P Addre desbied Uen ID Addre desbied Uen ID debied Sean Ad desbied Abshed Abshed desbied debied Abshed	as 0-0-000-000-100 1-0000-000-000-000 as 10000-000-000-000-000-000 10000-000-000-000-000-000-000-000-000-0
2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12	4 40515/3 5 40515/4 6 40515/6 7 40515/6 8 40515/7 9 40515/7 10 40515/10 11 40515/10 12 40515/11	PLC digital 36 PLC digital 37 PLC digital 38 PLC digital 39 PLC digital 39 PLC digital 40 PLC digital 41 PLC digital 42 PLC digital 43	PLC Bit Register PLC Bit Register	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	deabled deabled liP Addre deabled ubited Livet ID deabled Sant Adi deabled At Addre deabled At Addre	as 0-0-000-000-100 1-0000-000-000-000 as 10000-000-000-000-000-000 10000-000-000-000-000-000-000-000-000-0

Figure 6-1: Modbus TCP Slave Bit Arrays have an alternate address.

7. Modbus RTU Master

On any Modbus network, queries are initiated by a single master device and responded to by one of possibly many slave devices. The ProTalk Link B1285-P2 module can be configured as a Modbus master device on an RS232 or RS485 network (Modbus RTU).

Protocol	LED	State	Description
RTU Master	RS232	Off	Protocol is not used
	or	Yellow	Receive an invalid response
	RS485	Green	Receive a valid response
		Red	Transmit a query

When the ProTalk Link module is configured as the master device, it regularly reads from remote devices to obtain the data that will be evaluated for alarm conditions. In this configuration, the PLC program does not need to be modified; the ProTalk Link is programmed with the location of the relevant data in the remote slave PLCs.

The ProTalk Link can monitor 512 alarms that are divided into 32 blocks. A few of these blocks will be populated by local I/O in the Link hardware. The remainder are available to create alarms from the memory contents of remote PLCs.

The alarm data can be read as a discrete value where the value dictates alarming or not, or the data can be read as an integer value where the ProTalk Link compares it against programmed setpoints and generates alarm conditions if the value is considered too high or too low.

A hybrid type (bit array) makes all 16 points in the block Input Bit types but communicates with the PLC using a register message. The 16-bit register value is in bit-packed format where the least significant bit maps to the first alarm in the block.

As a master device, the B1285-P2 polls remote devices using the following rules:

- 1 poll for each block with enabled alarms
- The poll length is calculated from the starting address of the block to the highest enabled alarm in the block
- the Poll Interval is the time from a valid response to the start of a new query
- hardware handshaking is not used

The following example illustrates polling for Modbus Register type alarms. Here, the B1285-P2 module will poll for 5 registers starting at address 40033 (start address of block to highest enabled alarm).

	20 1				Quick setup check list. Press START to begin.	• 5
RDWARE	Module Properties: B1285-P	2 (address=2)				
UWATE	Module Settings	PLC Comm Settings	Block Addresses	1 Emi	al / Web Server	
RATION	Block Module Poling	Type	IP Address IPLC			
Port North		iype	P Address P Da	10 300		
INECT	0 M1 - 1 T1 -					
PARC 1		RTU Master analog		400		
	3 P2 -	unused		100	20	
Remove	4 P2 -	unued				
all of the second secon	5 P2 -	unused				
1285-M1	6 P2 -	unused				
1285-T1	7 P2	unused		+		
	Ref U/0 Address	Name	Туре	Group		
	2-1 1 40033	PLC register 32 PLC register 33	PLC Integer Register	. 1	disabled Setport Low: 25.0. Setpoint High: 75.0. momentary operation	
	2-2 2 40034	PLC register 33 PLC register 34	PLC Integer Register PLC Integer Register	1	Setpoint Low: 25.0, Setpoint High: 75.0, momentary operation disabled	
			PLC Integer Register	-	disbled	
	2.4 4 40000					
	2-4 4 40036 2-5 5 40037	PLC register 35 PLC register 35		1		
		PLC register 35 PLC register 35 PLC register 37	PLC Integer Register PLC Integer Register PLC Integer Register	1	Setport Low: 25.0. Setport High: 75.0. momentary operation disabled	
	2-5 5 40037	PLC register 36	PLC Integer Register PLC Integer Register PLC Integer Register	1	Setpoint Low: 25.0, Setpoint High: 75.0, momentary operation	
	2-5 5 40037 2-6 6 40038 5-7 7 40039 2-8 8 40040	PLC register 35 PLC register 37 PLC register 38 PLC register 39	PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register	1 	Setport Low: 25.0. Setport High: 75.0. momentary operation disabled detabled disabled	
	2.5 5 40037 2.6 6 40038 2.8 8 40040 2.9 9 40041	PLC register 35 PLC register 33 PLC register 39 PLC register 40	PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register	1 	Stepart Low: 25.0. Selpart High: 75.0. momentary operation disabled primoten disabled disabled	
	2.5 5 40037 2.6 6 40038 50 7 40559 2.8 8 40340 2.9 9 40041 2.10 10 40542	PLC register 35 PLC register 37 PLC register 39 PLC register 40 PLC register 41	PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register	1 - - - - -	Setport Low 25.0. Setport High: 75.0. momentary operation disavided (Interview) disavided disavided disavided disavided	
	2-5 5 40037 2-6 6 40038 2-7 7 45559 2-8 8 40040 2-9 9 40041 2-10 10 40542 2-11 11 40043	PLC register 35 PLC register 37 PLC register 39 PLC register 40 PLC register 41 PLC register 42	PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register	1 • • • •	Setport (
	2-5 5 40037 2-6 6 40038 2-7 7 40050 2-8 8 40040 2-9 9 40041 2-10 10 40042 2-11 11 40043 2-12 12 40044	PIC regiter 35 PIC regiter 37 PIC regiter 39 PIC regiter 40 PIC regiter 41 PIC regiter 42 PIC regiter 43	PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register	1 	Separa Lan 255 Separa High 75.0 monetary operation disability CREATING CREA	
	2-5 5 40037 2-6 6 40038 2-7 7 45559 2-8 8 40040 2-9 9 40041 2-10 10 40542 2-11 11 40043	PLC register 35 PLC register 37 PLC register 39 PLC register 40 PLC register 41 PLC register 42	PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register PLC Integer Register	1 	Setport (

Figure 7-1: Modbus RTU Master polls for 5 coils

The Modbus RTU Master protocol can be setup to run on either the RS232 or RS485 interface.

Image: State Figure 2 Image: State Figure 2	
Reads Series PLC Ceme Brings Book Adawase Exal / Web Serve VERATION • Brendrady • Module JCD • R1522 • R5485 • R446 Feedback • R5485 • R189 • R5485 • R486 • R189 • R18 Pol Series • Retroot • Pol Series • Pol Series Pol Series <th></th>	
PERATON • Bharher/F • R522 • R524 Communities Simply Ref Ref Ref Ref Ref Ref Ref	
Image: State Figure 2 Image: State Figure 2	
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// Remove C - Mondo ARTU Sarey Disc Parle (500 m) Pol terms (110 merc) Pol terms (110 merc)<	
Remon Or Mohan RTU Mare Patry Jane Pat Tread, 1:10 mec 81285 F11 Cr Ad DS1 (Pto P) Pat Below	
Motion KYU Menier Pol Refere	
81255471 8125542 812542 Stoff 10 Addres Mare Tope Group Department 54 10 Addres Mare Tope Group Department 1 1 Ivpa Sophy Wathy You - depined	
81265-F2 Module LO Ref UO Address Name Type Group Decorption 1 1 Impl Suppy Votage Input - disabled	
B1265F22 Notal # LO Ref UO Address Name Type Group Description 1 Impol Supply Voltage Input - desbilled	
Model UO Ref UO Address Name Type Group Description 0-1 1 Input Supply Voltage input - dashed	
0-1 1 input Supply Votage input - disabled	
0-1 1 Input Supply Votage Input - disabled	
0.2 2 Power Failure Digital Input - disabled	
0-3 3 System Alarm Internal Status - Internally generated	
0-4 4 Module Major Internal Statua - Internally generated	
0-5 5 Module Minor Internal Status - Internally generated	
0-6 1 Auto Relay 1 Auto Relay New Aam Exists in Group	1
0-7 2 Auto Relay 2 Auto Relay Error Candition Exists	
0.8 Active Shift Shift Status Current Shift	
0.9 Group 1 Status Group Status Coded Status	
0-10 Group 2 Status Group Status Coded Status	
0-11 Group 3 Status Group Status Coded Status	
0-12 Group 4 Status Group Status Coded Status	
0-13 Group 5 Status Group Status Coded Status	
0-14 Group 6 Status Group Status Coded Status 0-15 Group 7 Status Group Status Coded Status	

Figure 7-2: Modbus RTU Master serial configuration screen

8. Modbus RTU Slave

On any Modbus network, queries are initiated by a single master device and responded to by one of possibly many slave devices. The ProTalk Link P2 module can be configured to be either the master or one of the slaves on a network.

Protocol	LED	State	Description
RTU Slave	RS232	Off	Protocol is not used
	or	Yellow	Transmit an exception response
	RS485	Green	Transmit a valid response
		Red	After 1 second of inactivity

When the B1285-P2 module is configured as a slave device, it is expected to receive Modbus write commands from a remote master that contains the alarm data. In this configuration, the remote PLC must be programmed to write alarm information on regular intervals or when a condition changes.

The ProTalk Link can monitor 512 alarms, divided into 32 blocks. A few of these blocks will be populated by local I/O in the Link hardware. The remainder are available to create alarms from the memory contents of remote PLCs.

The alarm data can be written as a discrete value (bit) where the value dictates alarming or not, or the data can be written as an integer value (analog) where the ProTalk Link compares it against programmed setpoints and generates alarm conditions if the value is considered too high or too low.

A hybrid type (bit array) makes all 16 points in the block Input Bit types but communicates with the plc using a register message. The 16-bit register value is in bit packed format where the least significant bit maps to the first alarm in the block.

An alternate set of registers can be selected when assigning the block as a bit array.

This allows multiple blocks to be accessed sequentially.

Where the B1285-P2 module is configured as a slave device, a block of alarms that is mapped to local I/O can be read or written to by a remote PLC. The hardwired inputs on a Link module (T1, W2, W3, D1, A1 modules) can be read by accessing the assigned memory location but cannot be written to. The outputs on a Link module can be read or written to by accessing the assigned memory location. Outputs are defined as the relays on T1, W2, or W3 modules and as the upper 9 locations on the M1 module (block 0) consisting of the Current Shift and the Group Statuses.

As a slave device, the B1285-P2 receives messages from remote devices:

- The following commands are supported:
 - READ_COILS
 - READ_HOLDING_REGISTERS
 - WRITE_SINGLE_REGISTER
 - WRITE_MULTIPLE_REGISTERS
 - WRITE_AND_READ_REGISTERS
 - WRITE_SINGLE_COIL
 - WRITE_MULTIPLE_COILS
- disabled alarms are still considered allocated memory
- Contiguous blocks can be read or written with a single read or write command
- exception responses are returned for invalid memory addresses and commands

Bit Array blocks use a single register to represent 16 digital alarms. The default slave addressing places these registers 16 addresses apart. Multiple contiguous bit array blocks would require a separate Modbus poll for each block.

A duplicate set of contiguous registers is provided allowing a single read or write operation to span multiple bit array blocks. The duplicate registers can optionally be displayed as shown below.

	2					lan	ick setup check list. Press START to begin.
Module F	hoperties: B1285-P	2 (address=2)					
N	ladule Settings	PLC Comm Settings	Book Addresses	Enal.	/Web Server		
Bock	Module Poling	Type	IP Address IPLC ID	Is.et			
	M1 -	1984		erer .			
	T1			/			
		RTU Slave bit array	THE PERSON NAMED IN COLUMN	100516	5 (and 40033)	PLC Block A	ddress X
		RTU Slave bit array	- 1		(and 40045)		
4	P2 Modbus	RTU Slave bt array	- 1		7 (and 40065)	Block Reference	ce
		RTU Slave bit array	- 1	40518	3 (and 40081)	Block Number	2
	P2 -	unused		1		11. 4 h T	
7	P2 -	uniand				Module Type	22
1						Alam Numbers	2-1 to 2-16
Module I	0						
							ications
Ref U		Name	Туре	Group	Description		and the second se
2.1 1	40515/0	PLC digital 32	PLC Bit Register		daabled	Protocol	Modbus RTU Slave
2.2 2	40515/1	PLC digital 33	PLC Bit Register		deabled	Data Type	bt aray 💌
2.3 3	40515/2	PLC digital 34	PLC Bit Register		disabled		and the second sec
2-4 4	40515/3	PLC digital 35	PLC Bit Register		disabled	Block Location	
2.5 5	40515/4	PLC digital 36	PLC Bt Register		deabled	BIOCK LOCATION	
2.6 6	40515/5	PLC digital 37	PLC Bit Register		disabled		An alternate set of
2.7 7	40515/6	PLC digital 38	PLC Bit Register		daabled	UntID	An atemate set of registers is provided
2-8 8	40515/7	PLC digital 39	PLC Bt Register		daabled		so be arrays can be
2.9 9	40515/8	PLC digital 40	PLC Bit Register		deabled	Start Address	40033 accessed sequentially
2-10 1	40515/9	PLC digital 41	PLC Bt Register		disabled	Alt Address	10515 V Sow At Address
		PLC digital 42	PLC Bit Register		dsabled		
2.11 1		PLC digital 43	PLC Bit Register		deabled disabled		
2.12 1							
2-12 12 2-13 12	40515/12	PLC digtal 44	PLC Bit Register				
2-12 12 2-13 12 2-14 14	40515/12 40515/13	PLC digital 45	PLC Bit Register		daabled	Help	OK Cancel
2-12 12 2-13 12	40515/12					Help	OK Cancel

Figure 8-1: Modbus RTU Slave Bit Arrays have an alternate address.

The Modbus RTU Slave protocol can be setup to run on either the RS232 or RS485 interface. The Unit ID is the address assigned to the Link when operating as a slave.

	ni	n l					Quick setup check list. Press START to begin.
<u> </u>	<u>.</u>	<u>_</u>					paux seup creatis. Press siner ris egn.
-14-14		Properties: 8128	22 Indexes 7				
		Module Settings	PLC Comm Settings	Block Addresses	Ensi	/ Web Server	
		EherNet/P	+ Modbus/TCP	• 85232 • R	2010		
	-						
	Pro	tocol	FC	et Settings			
		None		laud Rate: 1900 💌			
	0	Modea RTU S	THE LINE ID 1				
	C	Modous RTU N	Nor.	Party: None 💌			
		AB DE1 (E to P)					
Mod							
Per l	þ	/O Address	Name	Type	[Oreup	Decaption	
Ref 0.1	1	0 Address	Input Supply	Voltage Input	Oreup	deabled	
Ref 0.1 0.2	1	10 Address	Input Supply Power Falure	Veltage Input Digital Input	Oreup	ರೋರಿಸಿದ ರೋರಿಸಿದ	
Ref 0.1 0.2 0.3	1	Address	Input Supply Power Failure Spitem Alem	Veltage Input Digital Input Internal Status	Oreup - -	disabled disabled Intervally generated	
101 01 02 03 04	1	Address	Input Supply Power Failure Spatern Alern Module Najor	Voltage Input Digital Input Internal Status Internal Status	Oreup - -	daabled daabled htemaly generated htemaly generated htemaly generated	
Ref 51 52 53 54 55	1	Address	Input Supply Power Failure Spatern Alern Motulei Major Motulei Major	Vellaga Input Digital Input Internal Status Internal Status Internal Status	Orrup - - -	diadeled diadeled literativg generated beteraty generated beteraty generated	
Ref 0.1 0.2 0.3 0.4 0.5 0.6	1	Address	Input Supply Prover Failure Spatern Alern Module Major Module Meror Auto Balay 1	Vellaga Input Digital Input Internel Status Internel Status Juto Fielay	Orrup - - -	diabled diabled blenskyspenoled blenskyspenoled blenskyspenoled blenskyspenoled New New Bole Totes 1	
Ref 0.1 0.2 0.3 0.4 0.6 0.6 0.7	1	Address	Input Supply Power Failure System Alern Module Meyor Auto Relay 1 Auto Relay 2	Vellage Input Digital Input Internel Status Internel Status Auto Palay Auto Palay	0reup - - -	deabled deabled bitmoly-perioded bitmoly-perioded bitmoly-perioded Hitmoly-perioded New Nam Pakes Gray 1 Fine Cardion Reta	
Ref 8-1 0-2 0-3 0-4 0-6 0-6 0-7 0-8	1	Address	Iront Supply Power Fakare Spatern Alern Module Maper Module Maper Auto Palay 1 Auto Palay 2 Active 314	Vellaga Input Digital loput Internal Status Internal Status Internal Status Auto Rokey Auto Rokey Sult Status	0reup - - -	debild (debild Herardy provide) Herardy provide) Herardy provide) New Yaon Ruba (Data Oraya 1) Herardy Children (Data 1) Herar Großton Data Cannel Shit	
Ref 0.1 0.2 0.3 0.4 0.6 0.6 0.7	1 2 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Address	Input Supply Power Failure System Alern Module Meyor Auto Relay 1 Auto Relay 2	Vellage Input Digital Input Internel Status Internel Status Auto Palay Auto Palay	Group - - - -	deabled deabled bitmoly-perioded bitmoly-perioded bitmoly-perioded Hitmoly-perioded New Nam Pakes Gray 1 Fine Cardion Reta	
Ref 8-1 0-2 0-3 0-4 0-5 0-6 0-6 0-7 0-8 0-9	1	Address	Iront Supply Power Federe System Alem Module Major Module Maror Auto Palay 2 Auto Palay 2 Auto Palay 2 Autor Shift Group 1 Sanhar	Vellaga Input Digital Input Internet Status Internet Status Auto Rolay Auto Rolay Sult Sutus Group Status	Group - - - -	doubled Variandy provoled Variandy provoled Variandy provoled Variandy provoled Variant Variant (Variant) Varianto Varianto Vat	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10	1	Address	Iront Supply Power Failure System Alem Module Moor Module Moor Auto Palay 1 Auto Palay 2 Active Shift Group 1 Sature Group 2 Sature	Vellaga input Opini loput Internel Status Internel Status Internel Status Auto Pakay Auto Pakay Self Status Group Status Group Status	0rrup - - - -	deabled intervely proveded intervely provede	
Ref 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 0.10 0.11	1	Address	Input Supply Power Failure Spatian Alem Module Mapr Module Mapr Module Mapr Auto Palay 1 Auto Palay 2 Active Shift Group 1 Suiture Group 2 Stature Group 2 Stature	Vellage input Optial input Internal Status Internal Status Anto Rolay Anto Rolay Self Status Group Status Group Status Group Status	0reup - - - -	installed idealed Varinaly generaled Varinaly generaled Varinaly generaled Varinaly generaled Varinaly generaled Varinal Varinal Varinal Varinal Varinal Varinal Varinal Varinal Varina	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-12	1 2 3 4 5 1 2	Address	Pept Scephy Prever Fakrer Sodiern Alern Medda Moor Aato Rukey 1 Aato Rukey 1 Aato Rukey 2 Actor Shit Group 2 Suitue Group 2 Suitue Group 3 Suitue Group 3 Suitue	Vellaga Input Digital Input Internol Status Internol Status Internol Status Anto Poloy Anto Poloy Anto Poloy Suita Group Status Group Status Group Status Group Status	Oreup - - - -	indular Varially generalized Variandy generalized Variandy generalized Variandy and Variando Variando Variando Variando Variando Canard Shi Canard Shi Canard Shi Canard Shi Canard Shi	

Figure 8-2: Modbus RTU Slave serial configuration screen

9. AB-DF1 – Full-duplex Master to PLC5 or SLC500 devices

When connecting with an Allen-Bradley PLC over an RS232 or RS485 network, the ProTalk Link B1285-P2 module can be used as a DF1 full duplex master device. In this configuration, the ProTalk Link connects point-to-point and will regularly read data from remote PLC5 or SLC500 series PLCs to obtain the alarm data. The PLC5 and SLC500 series PLCs use slightly different commands, so the type of device must be specified at the same time as the address of the remote data.

Protocol	LED	State	Description
DF1 Master	RS232	Off	Protocol is not used
	or	Yellow	Receive an invalid response
	RS485	Green	Receive a valid response
		Red	Transmit a query

When the ProTalk Link module is configured as the master device, it regularly reads from remote devices to obtain the data that will be evaluated for alarm conditions. In this configuration, the PLC program does not need to be modified; the ProTalk Link is programmed with the location of the relevant data in the remote slave PLCs.

The ProTalk Link can monitor 512 alarms that are divided into 32 blocks. A few of these will be populated by local I/O in the Link hardware. The remainder are available to create alarms from the memory contents of remote PLCs.

The alarm data can be read as a discrete value where the value dictates alarming or not, or the data can be read as an integer value where the ProTalk Link compares it against programmed setpoints and generates alarm conditions if the value is considered too high or too low.

A hybrid type (bit array) makes all 16 points in the block Input Bit types but communicates with the PLC using a 16-bit Integer register message. The 16bit register value is in bit-packed format where the least significant bit maps to the first alarm in the block.

As a master device, the B1285-P2 polls remote devices using the following rules:

- 1 poll for each block with enabled alarms
- The poll length is calculated from the starting address of the block to the highest enabled alarm in the block
- the Poll Interval is the time from a valid response to the start of a new query.
- the Poll Timeout is the length of time the P2 will wait for a response.

- the Poll Retries is the number of times the poll query or write command will be reissued.

The following example illustrates AB DF1 register type alarms for a PLC5. Note that even though only 2 alarms are enabled the poll length will be 5. (start address of block to highest enabled alarm)

i 🔳 🔌 🞴		٦.						Quick setup check list. Press START to begin.	• ≯ ≣ s
WARE	Module i	Properties	B1285-P2 (address=2)						
WARE	-	lodule Set	ing Í RICCO	nm Settings	Block Addresse	•s 1	Emai	(/Web Server	
ATION		Module		Type	IP Address	PLC ID			
		M1	Con the	1994	in Palanese	10010	- Start		
ECT		T1		-		-			
BUT		P2	AB DF1 - PLC5	analog	-	3	N32	0	
		P2	AB DET PECS	unused			1932	0	
move		P2		unused					
move		P2		unused					
285-M1	6	P2		unused					
285-T1	7	P2		unused					
	Module I Ref L	/0 10 Adda	as (Nome		Í Type		Group	Description	
				_			Group	Description	
-	Ref L		PLC registe		PLC Integer Regis	ster	Group 1	Setpoint Low: 25.0, Setpoint High: 75.0, momentary operation	
	Ref L 2-1 1 2-2 2	N32	PLC registe PLC registe	r 33	PLC Integer Regis PLC Integer Regis	ster ster		Setpoint Low: 25.0, Setpoint High: 75.0, momentary operation deabled	
	Ref L 2-1 1 2-2 2 2-3 3	N321	PLC registe PLC registe PLC registe	r 33 r 34	PLC Integer Regis PLC Integer Regis PLC Integer Regis	ster ster		Setpoint Low: 25.0, Setpoint High: 75.0, momentary operation disabled disabled	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4	0 Adda N321 N32 N322	PLC registe PLC registe PLC registe PLC registe PLC registe	r 33 r 34 r 35	PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis	ster ster ster		Setpoint Low: 25 0, Setpoint High: 75 0, momentary operation disabled disabled disabled	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5	0 Adds N321 N32 N322 N322 N322	PLC registe PLC registe PLC registe PLC registe PLC registe PLC registe	r 33 r 34 r 35	PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis	ster ster ster ster		Setpoint Lew: 25 0, Setpoint High: 75.0, momentary operation disabled disabled disabled Setpoint Lew: 25.0, Setpoint High: 75.0, momentary operation	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5 2-6 6	0 Adda N321 N32 N322 N322 N322 N322	PLC registe PLC registe PLC registe PLC registe PLC registe	r 33 r 34 r 35 r 36	PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis	ster ster ster ster ster ster		Seburat Law 250. Seburat High: 750, momentary operation disabled disabled Seburat Law 250, Seburat High: 750, momentary operation disabled	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5 2-6 6 2-7 7	0 Adda N321 N32 N32 N32 N32 N32 N32 N32	PLC register PLC register PLC register PLC register PLC register PLC register	r 33 r 34 r 35 r 36 r 36	PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis PLC Integer Regis	ster		Selport Law 250. Selport High: 75.0. momentary operation deabled deabled deabled deabled Law 250. Selport High: 75.0. momentary operation deabled deabled deabled	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5 2-6 6	0 Adda N321 N32 N32 N32 N32 N32 N32 N32	PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists	r 33 r 34 r 35 r 36 r 36 r 38 r 39	PLC Integer Regis PLC Integer Regis	ster ster ster ster ster ster ster ster		Seburat Law 250. Seburat High: 750, momentary operation disabled disabled Seburat Law 250, Seburat High: 750, momentary operation disabled	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5 2-6 6 2-7 7 2-8 8	0 Adda N321 N321 N322 N322 N322 N321 N321 N321	PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists	r 33 r 34 r 35 r 36 r 38 r 39 r 40	PLC Integer Regis PLC Integer Regis	ster ster ster ster ster ster ster ster		Support Lanz 250, Steport High: 750, monentary operation disabled disabled Selected Lanz, 250, Steport High: 750, monentary operation disabled disabled disabled	
	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5 2-6 6 2-7 7 2-8 8 2-9 9	0 Adda N321 N32 N322 N322 N322 N321 N321 N321	PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists PLC regists	r 33 r 34 r 35 r 36 r 38 r 39 r 40 r 41	PLC Integer Regis PLC Integer Regis	ster ster ster ster ster ster ster ster		Soport Lance 250, Selocart Hyp. 150, manwetary sponston deabled deabled Selocart Lance 250, Selocart Hyp. 150, manwetary sponston deabled deabled deabled	
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	Ref L 2-1 1 2-2 2 2-3 3 2-4 4 2-5 5 2-6 6 2-7 7 2-8 8 2-9 9 2-10 1 2-12 1 2-12 1 2-13 1 2-14 1 2-15 1	0 Add N321 N32 N322 N322 N322 N322 N322 N322	PLC regist. PLC r	# 33 # 34 # 35 # 35 # 36 # 38 # 38 # 38 # 40 # 41 # 42 # 43 # 44 # 45 # 46	PLC Integer Regis PLC Integer Regis	ster		Support Law 250, Seboort Hyp: 750, manwetary sponston divabiled divabiled Separat Law 250, Seboort Hyp: 750, manwetary sponston divabiled divabiled divabiled divabiled divabiled divabiled divabiled divabiled	

Figure 9-1: AB DF1 polls for 5 bit alarms

The Allen Bradley DF1 protocol can be setup to run on either the RS232 or RS485 interface. The Node Num is the Node Address assigned to the Link system.

	9	2				Quick setup check list. Press START to begin.
_	-					
-Me	dule	Properties: 81285	P2 (address=2)			
		And Je Settings	PLC Comm Settings	Book Addresses	1 .	al / Web Server
		ecoule settings	Picc comin deurigs	BROCK ADDRESSES	End	ar/webserver
		EherNet/IP	+ Nodbus/TCP	• R5212 • R5	S485	
11.5	_					
		focol	FC	of Settings	Communit	kolikne Settings
	C	None		Baud Rate: 1010 💌	Del He	terval: 1000 mee
	C	Modula RTU S	146			
	C	Modous RTU N	iter	Party: None 💌	Fol Tin	neout 2500 mec
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		No CH 10:00 P3	Nobe num 1			
븓						
	dule		(h)		10	18
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Ref 0.1 0.2	1	0 Address	Input Supply Power Falure	Voltage Input Digital Input	Oreup -	deabled deabled
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Ref 51 52 53 54 55 57	1	0 Address	Input Supply Power Falare System Alern Module Meor Auto Relay 1 Auto Relay 2	Veilaga Input Digital Input Internel Status Internel Status Auto Paday Auto Paday	0reup - - -	Leaded Galadial Marcely provided Marcely
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Ref 0.1 0.2 0.3 0.4 0.6 0.6 0.6 0.6 0.6 0.6 0.8 0.8 0.9	1	0 Address	Irost Supply Power Fakre System Alem Module Migor Module Migor Auto Pakey 2 Active Shift Group 1 Sarker	Webaya Input Digital Jupat Internet Status Internet Status Internet Status Auto Palay Auto Palay Sult Sultus Group Status	Oreup - - - -	Andread Andread Andread Andrea
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Per 01 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 3 4 5 1 2 2 3	0 Address	Input Supply Power Failors Spatem Alem Module Mean Module Mean Auto Palaty 1 Auto Palaty 2 Active Shift Group 1 Sailor Group 2 Sailor Group 3 Sailor	Vellaga leput Digial leput Internet Suban Internet Suban Anto Palay Anto Palay Sub Suban Group Suban Group Suban Group Suban	(Andore Andore Andore Wards protect Wards protect Wards for the Andore Andore Andore Wards and Andore Andore Andore Calif Andore Calif Andore Calif Andore

Figure 9-2: AB DF1 serial configuration screen

10. EtherNet/IP – Remote I/O Adapter

When connecting to a device that communicates using CIP over EtherNet, the ProTalk Link B1285-P2 module can be treated as a Generic EtherNet Module where it functions as a Remote I/O Adapter. In this configuration, the ProTalk Link acts as a server that receives data from remote devices to indicate the alarm conditions.

Protocol	LED	State	Description
EtherNet/IP	CIP	Off	Protocol is not used
		Green	Transmit Input Assembly
			contents
		Green	Receive changed Output
			Assembly contents
		Red	After 1 second of inactivity

The B1285-P2 module contains several Output Assemblies for use in different applications. By knowing how many alarms are desired in the system, the minimum sized Output Assembly can be used; any unused Assemblies will be ignored. This offers the flexibility of having multiple devices connect to separate Output Assemblies on this module.

The alarm data can be written as a discrete value where the value dictates alarming or not, or the data can be written as an integer value where the ProTalk Link compares it against programmed setpoints and generates alarm conditions if the value is considered too high or too low.

A list of all available assemblies is found in Table 10-1 thru 10-4.

Along with writing data to the B1285-P2, important status data can also be read from this module. When setting up an EtherNet/IP connection, the required Input Assembly will be the block of integers that contains the data found in Block 0 (mapped to the B1285-M1 module) of the available alarms. A description of these integers is found in Table 10-5 and Table 10-6.

1 abic 10-1. F	Assemblies availa	ble on the B1285-P	
Assembly	Size	Function	Description
	(word=16		-
	bits)		
101	16 words	Input	Read Block 0
			information
102	10 bytes	Configuration	reads all 0's
103	0	Heartbeat Input	not used
104	0	Heartbeat	not used
		Output	
105	32 bytes	Explicit	not used
		Messaging	
110	32 words	Input	Assy 101 + seconds
			clock
201-216	various	Output Integer	N blocks of analog
			alarms
301-316	various	Output Bit	N blocks of discrete
		_	alarms
401-402	dynamic	Control +	control plus alarm
		Output	data

Table 10-1: Assemblies available on the B1285-P2 module

Table 10-2: Output Integer Assemblies

Assembly	Size (word=16 bits)	Function	Description
201	16 words	Output Integer	1 block of analog alarms
202	16 words	Output Integer	1 block of analog alarms
203	16 words	Output Integer	1 block of analog alarms
204	16 words	Output Integer	1 block of analog alarms
205	32 words	Output Integer	2 blocks of analog alarms
206	32 words	Output Integer	2 blocks of analog alarms
207	32 words	Output Integer	2 blocks of analog alarms
208	32 words	Output Integer	2 blocks of analog alarms
209	64 words	Output Integer	4 blocks of analog alarms
210	64 words	Output Integer	4 blocks of analog alarms

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211	128 words	Output Integer	8 blocks of analog alarms
212	128 words	Output Integer	8 blocks of analog alarms
213	192 words	Output Integer	12 blocks of analog alarms
214	192 words	Output Integer	12 blocks of analog alarms
215	240 words	Output Integer	15 blocks of analog alarms
216	240 words	Output Integer	15 blocks of analog alarms

Table 10-3: Output Bit Assemblies

Assembly	Size (word=16	Function	Description
	bits)		
301	16 bits	Output Bit	1 block of discrete
			alarms
302	16 bits	Output Bit	1 block of discrete
			alarms
303	16 bits	Output Bit	1 block of discrete
			alarms
304	16 bits	Output Bit	1 block of discrete
			alarms
305	32 bits	Output Bit	2 blocks of discrete
			alarms
306	32 bits	Output Bit	2 blocks of discrete
			alarms
307	32 bits	Output Bit	2 blocks of discrete
			alarms
308	32 bits	Output Bit	2 blocks of discrete
			alarms
309	64 bits	Output Bit	4 blocks of discrete
			alarms
310	64 bits	Output Bit	4 blocks of discrete
			alarms
311	128 bits	Output Bit	8 blocks of discrete
			alarms
312	128 bits	Output Bit	8 blocks of discrete
			alarms
313	192 bits	Output Bit	12 blocks of discrete
			alarms
314	192 bits	Output Bit	12 blocks of discrete
			alarms

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315	256 bits	Output Bit	16 blocks of discrete
			alarms
316	512 bits	Output Bit	32 blocks of discrete
			alarms

Table 10-4: Output Assemblies with Control

Assembly	Size (word=16 bits)	Function	Description
401	dynamic	control plus Output Bits	write control integers for block 0 registers plus write discrete alarms
402	dynamic	control plus Output Bits or Integers	write control integers for block 0 registers plus write discrete or analog alarms

Table 10-5: Assembly 101 Contents

Word (16	Name	Value
bit)		
data[0]	Input Supply	0 (0.0V) to 4095 (30.0V)
	Voltage	
data[1]	Power Fail Alarm	0 (idle), 1 (alarm)
data[2]	System Alarm	0 (idle)
data[2].0	Vocabulary	0x01 (memory fail)
data[2].1	Database	0x02 (memory fail)
data[2].2	User voice	0x04 (memory fail)
data[2].3	Clock	0x08 (memory fail)
data[2].4	Expander	0x10 (fail)
data[3]	Major Alarm	0 (idle), 1 (alarm)
data[4]	Minor Alarm	0 (idle), 1 (alarm)
data[5]	Auto Relay 1	0 (off), 1 (on)
data[6]	Auto Relay 2	0 (off), 1 (on)
data[7]	Active Shift	1 to 8
data[8]	Group 1 Status	0 (disabled), 1 (idle), 2
		(alarming), 3 (acked)
data[9]	Group 2 Status	0 (disabled), 1 (idle), 2
		(alarming), 3 (acked)
data[10]	Group 3 Status	0 (disabled), 1 (idle), 2
		(alarming), 3 (acked)
data[11]	Group 4 Status	0 (disabled), 1 (idle), 2
		(alarming), 3 (acked)
data[12]	Group 5 Status	0 (disabled), 1 (idle), 2
		(alarming), 3 (acked)

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data[13]	Group 6 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
data[14]	Group 7 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
data[15]	Group 8 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)

Table 10-6: Assembly 110 Contents

Word (16	Name	Value	
bit)			
data[0]	Input Supply	0 (0.0V) to 4095 (30.0V)	
	Voltage		
data[1]	Power Fail Alarm	0 (idle), 1 (alarm)	
data[2]	System Alarm	0 (idle)	
data[2].0	Vocabulary	0x01 (memory fail)	
data[2].1	Database	0x02 (memory fail)	
data[2].2	User voice	0x04 (memory fail)	
data[2].3	Clock	0x08 (memory fail)	
data[2].4	Expander	0x10 (fail)	
data[3]	Major Alarm	0 (idle), 1 (alarm)	
data[4]	Minor Alarm	0 (idle), 1 (alarm)	
data[5]	Auto Relay 1	0 (off), 1 (on)	
data[6]	Auto Relay 2	0 (off), 1 (on)	
data[7]	Active Shift	1 to 8	
data[8]	Group 1 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[9]	Group 2 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[10]	Group 3 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[11]	Group 4 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[12]	Group 5 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[13]	Group 6 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[14]	Group 7 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[15]	Group 8 Status	0 (disabled), 1 (idle), 2	
		(alarming), 3 (acked)	
data[16]	Clock Seconds	value increments each second	
data[17]	reserved	not defined	
data[18]	reserved	not defined	
data[19]	reserved	not defined	
data[20]	reserved	not defined	

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data[21]	reserved	not defined
data[22]	reserved	not defined
data[23]	reserved	not defined
data[24]	reserved	not defined
data[25]	reserved	not defined
data[26]	reserved	not defined
data[27]	reserved	not defined
data[28]	reserved	not defined
data[29]	reserved	not defined
data[30]	reserved	not defined
data[30]	reserved	not defined

Table 10-6: Contents of Assembly 401/402 (first 16 words)

Word (16	Name	Value
bit)		
data[0]	Input Supply	unused
	Voltage	
data[1]	Power Fail Alarm	unused
data[2]	System Alarm	unused
data[3]	Major Alarm	unused
data[4]	Minor Alarm	unused
data[5]	Auto Relay 1	unused
data[6]	Auto Relay 2	unused
data[7]	Active Shift	0 (no change), 1 to 8
data[8]	Group 1 Status	0 (no change), 3 (acknowledge
		alarms)
data[9]	Group 2 Status	0 (no change), 3 (acknowledge
		alarms)
data[10]	Group 3 Status	0 (no change), 3 (acknowledge
		alarms)
data[11]	Group 4 Status	0 (no change), 3 (acknowledge
		alarms)
data[12]	Group 5 Status	0 (no change), 3 (acknowledge
		alarms)
data[13]	Group 6 Status	0 (no change), 3 (acknowledge
		alarms)
data[14]	Group 7 Status	0 (no change), 3 (acknowledge
		alarms)
data[15]	Group 8 Status	0 (no change), 3 (acknowledge
		alarms)

11. Configurating a Link for EtherNet/IP

The B1285-P2 has several features that make it quite flexible. Even for a basic EtherNet/IP setup, a few key steps are required to create a working database.

The minimum setup requires:

- 1. Configure the list of modules in this Link system to include a B1285-P2 module.
 - a. In the Hardware Menu select Add/Remove.
 - b. Choose a Module Address and set the Module Type to be B1285-P2.

0	1	.1				Quick setup check list. Press	START to begin.
		U				lasses and a second sec	
Mod	Je Pro	perties: B1285	P2 (address=2)				
			1				
	Mod	tule Settings	PLC Comm Settings	Block Addresses	Ema	/ Web Server	
	Module	Alarms					
	Major	Marca					
			Web Network failure				
		C 2. Email	undeliverable				
		T 3. PLC N	etwork failure				
-							
Mod	ule 1/0						
Mod		Address	Name	Туре	Group	Description	
			Name Insut Supply		Group	Description	
Ref	1/0			Type Votage Input Digital Input	Group		
Ref 0-1	1/0		Input Supply	Voltage Input	Group	dsabled	
Ref 0-1 0-2	1		Input Supply Power Falure	Voltage Input Digital Input	Group	disabled disabled	
Ref 0-1 0-2 0-3 0-4 0-5	1 2 3		Input Supply Power Failure System Aam Module Major Module Minor	Voltage Input Digital Input Internal Status Internal Status Internal Status	Group - - -	deabled deabled internally generated internally generated internally generated	
Ref 0-1 0-2 0-3 0-4 0-5 0-6	1/D 2 3 4		Input Supply Power Failure System Alarm Module Major	Voltage Input Digital Input Internal Status Internal Status Auto Relay	Group - - -	daabled daabled iritemaky generated iritemaky generated iritemaky generated iritemaky generated iritemaky generated iritemaky generated	
Ref 0-1 0-2 0-3 0-4 0-5 0-5 0-5 0-7	1/D 2 3 4		Input Supply Power Failure System Aam Module Major Module Minor	Voltage Input Digital Input Internal Status Internal Status Internal Status	Group - - -	deabled deabled internally generated internally generated internally generated	
Ref 0-1 0-2 0-3 0-4 0-5 0-5 0-7 0-8	1 2 3 4 5 1		Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1	Voltage Input Digital Input Internal Status Internal Status Auto Relay	Group - - -	daabled daabled iritemaky generated iritemaky generated iritemaky generated iritemaky generated iritemaky generated iritemaky generated	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9	1 2 3 4 5 1		Input Supply Power Fakure System Aam Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Status	Votage Input Digtal Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status	Group - - -	deabled deabled Hernardy generated Hernardy generated Hernardy generated Hernardy generated Const SPA Const SPA Const SPA	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10	1 2 3 4 5 1		Input Supply Power Failure System Aam Module Major Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Status Group 2 Status	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status	Group - - -	deabled deabled Herman By provided Herman By provided Herman By provided New Alem Exists in Group 1 Enror Conflor Clines Careford Set Careford Set	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11	1 2 3 4 5 1		Input Supply Power Failure System Alam Module Minor Auto Relay 1 Auto Relay 2 Actor Relay 2 Actore Shift Group 1 Status Group 3 Status	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status	Group - - -	dealed dealed Hermaly generated Hermaly generated Hermaly generated Erec Arab Data in Group 1 Erec Arab Data in Group 1 Carlo Atta and Carlo Atta and Carlo Atta and Carlo Atta and	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-12	1 2 3 4 5 1		Input Supply Power Falure System Ham Module Major Module Major Module Major Module Major Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Status Group 2 Status Group 3 Status	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status	Group - - -	dealete dealete Verendy proved Verendy proved Verendy proved Verendy of the second Verendy of the second Verendy of the second Caret Of the Caret Of the Caret Of the Caret Of the Caret Of the Caret Of the Caret Of the	
Pef 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-12 0-13	1 2 3 4 5 1		Input Supply Power Failure System Nam Module Major Module Minor Autor Relay 1 Autor Shift Group 1 Status Group 3 Status Group 3 Status Group 4 Status	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Auto Relay Shift Status Group Status Group Status Group Status Group Status	Group - - - -	dealed dealed Hernaly generated Hernaly generated Hernaly generated Dear Safe Gener Safe Control Safe Control Safe Control Safe Control Safe Control Safe Control Safe Control Safe	
Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-12	1 2 3 4 5 1		Input Supply Power Falure System Ham Module Major Module Major Module Major Module Major Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Auto Relay 1 Status Group 2 Status Group 3 Status	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status	Group - - - - -	dealete dealete Verendy proved Verendy proved Verendy proved Verendy of the second Verendy of the second Verendy of the second Caret Of the Caret Of the Caret Of the Caret Of the Caret Of the Caret Of the Caret Of the	

Figure 11-1: EtherNet/IP setup - Add a B1285-P2 module

- 2. Configure the IP Address of this unit on your network.
 - a. In the Module Properties area of the screen, select then PLC Comm Settings and EtherNet/IP tabs.
 - b. In the Local PLC Network section click on the Device IP Addr box. A Network Properties box will appear.
 - c. Enter at least an IP Address and Subnet Mask for this device on the network.

Configuring a Link for EtherNet/IP

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	20 2					Quick setup check list. Press START to begin.
ARDWARE	Module Properties: B1285 Module Settings	-P2 (address=2) PLC Comm Settings	Block Addresses	Enal	I / Web Server	
PERATION	+ EtherNet/IP	+ Modeua/TCP	• R5212 • R	C495		B1285-P2 Network Properties
0NNECT	Local PLC Network Device IP Add: 01	0.000.050.168 ing Di	neric VO Adapter Connection Assembly 3 sut 100 ¥ 32 ntiguration: 102 10	Size (16 bit	Assembly	Al Binerol connections are no ONE network Use sequence networks: not of the Card one for Email/Web PLC and Binel/Web Network Addressing Device IP Addr: 010.000.000.166 Skanne Mark: 255.355.000.000
	1					Default Gateway 010.000.100.002
8) B1285-P2	Madule L/O					DNS Server: 010.000.100.007
	Ref 1/0 Address	Name	Type	Group	Description	una serve. Jerre receiver a
	0-1 1	Input Supply	Votage Input	Group	disabled	
	0.2 2	Power Failure	Digital Input		deabled	When configured for ONE network, all
	0-3 3	System Alarm	Internal Status	-	Internally generated	connections are to be made through one
	0.4 4	Module Major	Internal Status		Internally generated	of the PLC Network ports.
	0.5 5	Module Minor	Internal Status		Internally generated	The Email/Web port is not used.
	0-6 1	Auto Relay 1	Auto Relay		New Alarm Edists in Group 1	
	0.7 2	Auto Relay 2	Auto Relay		Error Condition Exists	
	0-8	Active Shift	Shift Status		Current Shift	
	0.9	Group 1 Status	Group Status		Coded Statue	
		Group 2 Stetus	Group Status		Coded Status	
	0-10				Coded Status	ÖK Caroel
	0-10 0-11	Group 3 Status	Group Status			
	0-10 0-11 0-12	Group 3 Status Group 4 Status	Group Statua		Coded Statue	
	0-10 0-11 0-12 0-13	Group 3 Status Group 4 Status Group 5 Status	Group Status Group Status		Coded Status	
	0-10 0-11 0-12	Group 3 Status Group 4 Status	Group Statua			

Figure 11-2: EtherNet/IP setup - Configure the IP address

Configure the mapping of the starting block of alarms.

- d. Select the Block Addresses tab.
- e. Double click a line to open a PLC Block Address configuration window. Blocks starting at this line will be mapped to an assembly.
- f. In the Block Communications area of the new window, change the Protocol to use "EtherNet/IP Adapter".
- g. The default Data Type should show "bit". If not, change it.
- h. In the Block Location section, the IP Address should reflect the address entered in the previous step.
- i. In the Assembly control, choose an assembly that is sufficiently large for your system. Choosing an assembly that is larger than you need will not cause problems but will result in unused data being transferred.
- j. The data offset for this block defaults to 0, the beginning of the assembly.

Configuring a Link for EtherNet/IP

ProTalk LINK Databa 20 I A A A A A A Quick setup check list. Press START to beg • 🚝 START dule Properties: B1285-P2 (address=2) 1 HARDWARE Madule Settings PLC Cor Block Module Poline Type S CONNECT BPLC Block Add / Remove Book Numbe (D) B1285-M1 Module Type (1) B1285-T1 10 2-16 ► (2) B1285-P2 Ref 1/0 A Group Dee • Data Type 2-2 2-3 2-4 2-5 2-6 2-7 2-8 2-9 2-10 Assombly Reference ٠ Output As 2.9 9 311 [01.8 2:10 10 311 [0].9 2:11 11 311 [0].10 2:12 12 311 [0].12 2:13 13 311 [0].12 2:14 14 311 [0].13 2:15 15 311 [0].14 2:16 16 311 [0].15 Help OK Cancel PLC digital 46 PLC digital 47

Figure 11-3: EtherNet/IP setup - Selecting an assembly to use

- 3. Configure the mapping of subsequent blocks.
 - a. Double click the line showing the next block of alarms.
 - b. In the configuration window that pops up, select the Protocol to be "EtherNet/IP".
 - c. The software should 'assume' you are continuing from the previous block and fill in the Assembly number and Data Offset automatically.
 - d. Continue until you have enough alarm points mapped or until the size of the assembly has been reached.

	20 L					Quick setup check list. Press START to begin.
HARDWARE	Module Properties: B1285-F	2 (address=2)				
TO DID HIVE	Module Settings	PLC Comm Settings	Book Addresse	. 1	Ensal / Web Server	
PERATION	Bock Module Poling	Type		IPLC ID	Set	
EPSYLKAN		iype/	P Address	PULID	start	
CONNECT	0 M1 -					
JONNECT		1/IP Adapter bit	10.0.50.168		311 [0] 0	
		t/IP Adapter bit	10.0.50.168	-	311[0] 0	PLC Block Address
/ Bemove		t/IP Adapter bit	10 0 50 168	-	311(2) 0	
/ Hemove	5 P2 -	unused				Block Reference
81285-M1	6 P2 -	unused				Block Number 5
	7 92	unused				Module Type P2
) B1285-T1	and the second s					
0 B1285-P2 I						Alam Numbers 5-1 to 5-16
	Module I/O					
	Ref 1/0 Address	Name	Type	10	Group Description	Block Communications
	4-1 1 311[2].0	PLC digital 64	PLC Bit Register	-	daabled	
	42 2 311[2] 1	PLC digital 65	PLC Bt Register		disabled	
	4-3 3 311[2].2	PLC digital 66	PLC Bt Register		disabled	Data Type bt.
	44 4 311[2].3	PLC digital 67	PLC Bit Register		disabled	
	45 5 311[2].4	PLC digital 68	PLC Bt Register		deabled	r Block Location
	4-6 6 311[2].5	PLC digital 69	PLC Bt Register		disabled	
	4-7 7 311[2].6	PLC digital 70	PLC Bit Register		disabled	IP Address 010.000.050.168 Assembly Reference
	48 8 311[2].7	PLC digital 71	PLC Bt Register		deabled	Output Assembly 311 (120 bits) *
	4.9 9 311[2].8	PLC digital 72	PLC Bit Register		deabled	Data Officet
	4-10 10 311[2].9	PLC digital 73	PLC Bit Register		disabled	Data Offset 40 bits
	4-11 11 311[2] 10	PLC digital 74	PLC Bit Register		disabled	
	4-12 12 311[2].11	PLC digital 75	PLC Bt Register		deabled	
	4-13 13 311 [2] 12	PLC digital 76	PLC Bit Register		disabled	
	4-14 14 311[2] 13	PLC digital 77	PLC Bit Register		disabled	
	4-15 15 311 [2] 14 4-16 16 311 [2] 15	PLC digital 78 PLC digital 79	PLC Bt Register		deabled deabled	Help OK Cancel
	4-16 16 311 [2] 15		PLC Bit Register			

Figure 11-4: EtherNet/IP setup – Adding subsequent blocks to the same assembly

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- 4. Programming the PLC.
 - a. Refer to the Assembly Map or EtherNet/IP Connection Settings screen to verify the assembly instance numbers and size for configuring the PLC.

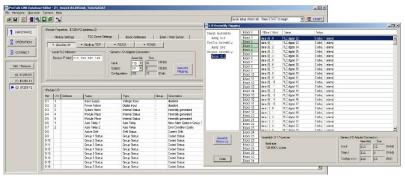


Figure 11-5: EtherNet/IP setup – View Assembly details to program the PLC

12. EtherNet/IP Example 1

The following example sets up an assembly with 32 discrete alarms and allows the PLC to acknowledge alarms and change shifts.

Referring to Table 10-4, either assembly 401 or 402 can be used to transfer both control information and alarm data. Assembly 401 is for discrete (digital) alarms only. Assembly 402 can have a mix of both digital and analog alarms. For this example, we will use assembly 401.

	<u>1</u>	•						Quick setup check list. Press START to begin.	
-Mo	dule Pri	perties: B1285-F	2 (address=2)						
ARE		tule Settings	PLC Comm	0	Block Address		-	/ Web Server	
	lock IN				IIP Address	PLC ID		i / web server	
				Туре		PLC ID			
1 0			/IP Adapter	analog	10.0.50.168		401	[0]	
т 1	T		/IP Adapter	- bit	10.0.50.168		-	171.0	_
	P			bit	10.0.50.168	-		12.0	
we 4	P			unused	10.0.50.168		401	[10].0	
200 C	P			unused			-1-		
5M1 6	P			unused					
511	P			unused					
	dule 1/0		(Marco)		17			(purses	
			1 Name		Tune		Gene	Duration	
Ref		Address	Name PLC dottal 32	,	Type PLC Rt Revister		Group	Description Journ when lost is 1 momentary operation	
	1/0		Name PLC digital 32 PLC digital 33		Type PLC Bit Register PLC Bit Register		Group	Description Aam when input is 1, momentary operation Afam when input is 1, momentary operation	
Ref 2-1 2-2 2-3	1/0	Address 401 [17] . 0	PLC digital 32	1	PLC Bit Register		1	Alarm when input is 1, momentary operation	
Ref 2-1 2-2 2-3 2-4	1	Address 401[17].0 401[17].1	PLC digital 32 PLC digital 33		PLC Bit Register PLC Bit Register		1	Alam when input is 1, momentary operation Alam when input is 1, momentary operation	
Ref 2-1 2-2 2-3 2-4 2-5	1 2 3 4 5	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].4	PLC digital 33 PLC digital 33 PLC digital 34 PLC digital 34 PLC digital 35 PLC digital 36	8 8 8	PLC Bit Register PLC Bit Register PLC Bit Register PLC Bit Register PLC Bit Register		1	Alam when input is 1, momentary operation Alam when input is 1, momentary operation Alam when input is 1, momentary operation disabled disabled	
Ref 2-1 2-2 2-3 2-4 2-5 2-6	1 2 3 4 5 6	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].4 401[17].5	PLC digital 33 PLC digital 33 PLC digital 34 PLC digital 34 PLC digital 36 PLC digital 36 PLC digital 37	8 6 6	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register		1	Alam when hopd is 1. Incrementary contention Alam when hopd is 1. Incrementary contention Alam when hopd is 1. Incrementary contention disabled disabled	
Ref 2-1 2-2 2-3 2-4 2-5 2-6 2-6 2-7	1 2 3 4 5 6 7	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].4 401[17].5 401[17].6	PLC digital 33 PLC digital 33 PLC digital 34 PLC digital 38 PLC digital 38 PLC digital 38 PLC digital 30 PLC digital 30	2 2 2 2 2	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register		1	Aam when input is 1, nomertary operation Aam when input is 1, nomertary operation disabled disabled disabled	
Ref 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8	1 2 3 4 5 6 7 8	Address 401 [17].0 401 [17].1 401 [17].2 401 [17].3 401 [17].4 401 [17].5 401 [17].6 401 [17].7	PLC digital 32 PLC digital 33 PLC digital 34 PLC digital 38 PLC digital 38 PLC digital 30 PLC digital 30 PLC digital 30 PLC digital 30	B 6 7 7	PLC Bt Register PLC Bt Register		1	Alem wher not a Linementary spendion Alem wher not a Linementary spendion Alem wher not a Linementary spendion disabled disabled disabled disabled	
Ref 2-1 2-2 2-3 2-4 2-6 2-7 2-8 2-9 2-8 2-9 2-9 2-9 2-9 2-9 2-9 2-9 2-9 2-9 2-9	1 2 3 4 5 6 7 8 9	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].4 401[17].5 401[17].6 401[17].7 401[17].8	PLC digtal 33 PLC digtal 33 PLC digtal 34 PLC digtal 36 PLC digtal 36 PLC digtal 30 PLC digtal 30 PLC digtal 30 PLC digtal 30 PLC digtal 40	5 5 7 8	PLC Bit Register PLC Bit Register		1 1 1	Alem when rout it is connectory operation Alem when rout is it momentary operation Alem when rout is it momentary operation dealed dealed dealed dealed dealed dealed dealed	
Ref 212 22 23 24 25 26 27 28 29 29 21	1 2 3 4 5 6 7 8 9 0 10	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].4 401[17].5 401[17].6 401[17].7 401[17].8 401[17].8	PLC digtal 32 PLC digtal 33 PLC digtal 34 PLC digtal 34 PLC digtal 36 PLC digtal 36 PLC digtal 30 PLC digtal 30 PLC digtal 32 PLC digtal 41	8 6 7 8 9	PLC Bt Register PLC Bt Register		1 1 1	Alem when you is a Lineamedray operation Alem when you is a Lineamedray operation Alem when you is a Lineamedray operation developed developed developed developed developed developed developed developed	
Perf 21 22 23 24 26 26 27 28 29 21 21 21	1 1/0 1 2 3 4 5 6 7 8 9 0 10 10 1 11	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].3 401[17].5 401[17].6 401[17].7 401[17].7 401[17].9 401[17].9	PLC digtal 33 PLC digtal 33 PLC digtal 34 PLC digtal 34 PLC digtal 35 PLC digtal 35 PLC digtal 35 PLC digtal 35 PLC digtal 35 PLC digtal 42 PLC digtal 42 PLC digtal 42	2 2 2	PLC Bt Register PLC Bt Register		1 1	Alem wher not a 1 incomertary operation Alem wher not a 1 incomertary operation Alem wher not a 1 incomertary operation databit databit databit databit databit databit databit databit databit	
Ref 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8 2-9 2-11 2-11 2-11 2-11 2-11	1/0 1 2 3 4 5 6 7 8 9 0 10 1 11 2 12	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].5 401[17].6 401[17].7 401[17].8 401[17].8 401[17].10 401[17].10	PLC digtal 32 PLC digtal 33 PLC digtal 34 PLC digtal 34 PLC digtal 34 PLC digtal 33 PLC digtal 33 PLC digtal 33 PLC digtal 32 PLC digtal 42 PLC digtal 42 PLC digtal 42 PLC digtal 43	8 5 5 7 8 9 0 1 2 8	PLC Bit Register PLC Bit Register		1 1 1	Alem when you is a Lineametery operation Alem when you is a Lineametery operation dashed dashed dashed dashed dashed dashed dashed dashed dashed	
Ref 21 22 23 24 26 26 27 28 29 29 21 21 21	1//0 1 2 3 4 5 6 7 8 9 0 10 1 11 2 12 3 13	Address 401[17].0 401[17].1 401[17].2 401[17].3 401[17].3 401[17].5 401[17].6 401[17].7 401[17].7 401[17].9 401[17].9	PLC digtal 33 PLC digtal 33 PLC digtal 34 PLC digtal 34 PLC digtal 35 PLC digtal 35 PLC digtal 35 PLC digtal 35 PLC digtal 35 PLC digtal 42 PLC digtal 42 PLC digtal 42	8 5 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	PLC Bt Register PLC Bt Register		1 1	Alem wher not a 1 incomertary operation Alem wher not a 1 incomertary operation Alem wher not a 1 incomertary operation databit databit databit databit databit databit databit databit databit	

Figure 12-1: EtherNet/IP Example 1 - Choosing Assembly 401

Assembly 401 is the output assembly. Data written by the PLC to this assembly can be used to change shifts, acknowledge or trip alarms.

The first 16 16-bit words starting at offset zero are mapped to M1 module (block 0). The PLC can change the shift by writing the new shift number to the word at offset 7. To acknowledge an alarm in group 3, the PLC would write the value 3 (acknowledge) to the word at offset 10.

The 17th word "data[16]" maps to the T1 module and is unused. Data written to this location will be ignored.

The 18th and 19th words are expanded into bits with the LSB of each word mapping to the first alarm in the corresponding block.

EtherNet/IP Exa	ample 1					PAGE 30
📑 CIP Assembly Mapping	J					_ _ ×
Input Assembly	Block 0	Offset (16 bit)	Name	Value		
Assy 101	Block 1	data [0]	Input Supply	not defined		
Config Assembly	Block 2	data [1]	Power Failure	not defined		
Assy 102	Block 3	data [2]	System Alarm	not defined		
Output Assembly	Block 4	data [3]	Module Major	not defined		
Assy 401	Block 5 Block 6	data [4]	Module Minor	not defined		
	Block 0 Block 7	data [5]	Auto Relay 1	not defined		
	Block 8	data [6]	Auto Relay 2	not defined		
	Block 9	data [7]	Active Shift	0 (no change), 1 t	o 8	
	Block 10	data [8]	Group 1 Status	0 (no change), 3	(acknowledge)	
	Block 11	data [9]	Group 2 Status	0 (no change), 3	(acknowledge)	
	Block 12	data [10]	Group 3 Status	0 (no change), 3	(acknowledge)	
	Block 13	data [11]	Group 4 Status	0 (no change), 3	(acknowledge)	
	Block 14	data [12]	Group 5 Status	0 (no change), 3	(acknowledge)	
	Block 15	data [13]	Group 6 Status	0 (no change), 3	(acknowledge)	
	Block 16	data [14]	Group 7 Status	0 (no change), 3	(acknowledge)	
	Block 17	data [15]	Group 8 Status	0 (no change), 3	(acknowledge)	
	Block 18	data [16]	unused	not defined		
	Block 19	data [17] . 0	PLC digital 32	0 (idle), 1 (alarm)		
	Block 20	data [17] . 1	PLC digital 33	0 (idle), 1 (alarm)		
	Block 21	data [17] . 2	PLC digital 34	0 (idle), 1 (alarm)		
	Block 22	data [17] . 3	PLC digital 35	0 (idle), 1 (alam)		
	Block 23 Block 24	data [17] 4	PLC dinital 36	0 (idle) 1 (alam)		_
	Block 24 Block 25					
Assembly	Block 26	Assembly 401 Pr	roperties		Generic I/O Adapter Conne	
Reference	Block 20	dynamically s	ized - as blocks are allo	cated	Assembly	
	Block 28	BOOL alarms			Input: 101	16 (16 bit)
	Block 29	allows writing	Active Shift		Output: 401	19 (16 bit)
	Block 30	allows ackno	wledging alarms (write t	o Group N Status)		
Close	Block 31				Configuration: 102	10 (8 bit)

Figure 12-2: EtherNet/IP Example 1 – Assembly 401 mapping

The Input Assembly 101 is read by the PLC and allows the PLC to monitor the status of the Link system.

Input Assembly	Block 0	Offset (16 bit)	Name	Value
Assy 101	Block 1	data [0]	Input Supply	0 to 4095 (0.0 to 30.0V)
Config Assembly	Block 2	data [1]	Power Failure	0 (idle), 1 (alarm)
Assy 102	Block 3	data [2]	System Alarm	0 (idle)
Output Assembly	Block 4	data [2] . 0	Vocabulary	0x01 (memory fail)
Assv 401	Block 5	data [2] . 1	Database	0x02 (memory fail)
	Block 6	data [2] . 2	User voice	0x04 (memory fail)
	Block 7 Block 8	data [2] . 3	Clock	0x08 (memory fail)
	Block 9	data [2] . 4	Expander	Ox10 (memory fail)
	Block 10	data [3]	Module Major	0 (idle), 1 (alam)
	Block 11	data [4]	Module Minor	0 (idle), 1 (alarm)
	Block 12	data [5]	Auto Relay 1	0 (off), 1 (on)
	Block 13	data [6]	Auto Relay 2	0 (off), 1 (on)
	Block 14	data [7]	Active Shift	1 to 8
	Block 15	data [8]	Group 1 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 16	data [9]	Group 2 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 17	data [10]	Group 3 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 18	data [11]	Group 4 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 19	data [12]	Group 5 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 20	data [13]	Group 6 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 21	data [14]	Group 7 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 22	data [15]	Group 8 Status	0 (disabled), 1 (idle), 2 (alarming), 3 (acked)
	Block 23			
	Block 24 Block 25			
Assembly	Block 25	Assembly 101 P	roperties	Generic I/O Adapter Connection
Reference	Block 20	16 INT		Assembly Size
	Block 28	provides bas	ic run-time status	Input: 101 16 (16 bit)
	Block 29			Output: (16 bit)
	Block 30			
Close	Block 31			Configuration: 102 10 (8 bit)

Figure 12-3: EtherNet/IP Example 1 – Assembly 101 mapping

Optionally Input Assembly 110 can be chosen. This assembly adds another 16 registers that get read by the PLC. The 17th word "data[16] contains a value that gets incremented every 1 second by the Link system.

EtherNet/IP Example 1

The PLC can watch this value to verify that the Link system is still operational.

The remaining 15 words of Assembly 110 are reserved and unused.

Once the alarm configuration is complete the assembly size is calculated and displayed in Hardware -> B1285P2 -> PLC Comm Settings. These numbers are needed in RSLogix so that the PLC and Link both agree on the size of the assembly data block that gets transferred.

Click on the "Assembly Mapping" button to see the detailed assembly map.

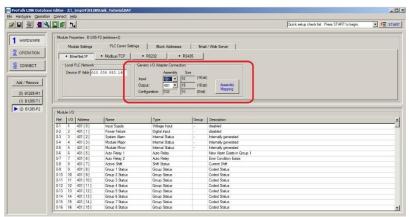


Figure 12-4: EtherNet/IP Example 1 – Adapter size

13. EtherNet/IP Example 2

This example uses assembly 311 to set up 128 discrete alarms.

	٦,										Quick setup check list. Press START to begin.	٠
Module	Prope	nties: E	1285-P2 (address-2)								
	Made	e Settir		RI C Com	n Settings	Block Address	ies Í	Engl	/Web Server			
		ule [F			Type	IP Address	PLC ID		1			
0	M1		Can (3		1700	1 7 6 4 6 6 6	10010	0101				
1	T1											
2	P2		BherNet/I	P Adapter	bit	10.0.50.168		311	01.0			1
3	P2		BherNet/I		bit	10.0.50.168			11.0			
4	P2		therNet/I		bt	10.0.50.168			21.0			
5	P2	6	BherNet/I	P Adapter	bit	10.0.50.168		311	3].0			
6	P2	6	BherNet/I	P Adapter	bit	10.0.50.168			4].0			
7	P2		PherNet/I	P Adapter	hit	10.0.50.168		3111	51.0			
Module Ref (Address	3	Name		Туре	_	Group	Description			
Ref	101				2					momentary operation		
Ref 2-1	10	Addres 311 [0 311 [0].0	PLC digital 3		PLC Bt Register		Group 1	Alarm when input is 1	, momentary operation		
Ref 2-1 2-2	1 2	311[0].0].1		3			1	Alarm when input is 1 Alarm when input is 1	, momentary operation , momentary operation , momentary operation		
Ref 2-1 2-2 2-3 2-4	1 2 3 4	311[0 311[0 311[0 311[0 311[0].0].1].2].3	PLC digital 3 PLC digital 3	3 4	PLC Bit Register PLC Bit Register		1	Alarm when input is 1 Alarm when input is 1 Alarm when input is 1	, momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5	1 2 3 4 5	311[0 311[0 311[0 311[0 311[0 311[0	1.0 1.1 1.2 1.3 1.4	PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3	3 4 5 6	PLC Bit Register PLC Bit Register PLC Bit Register		1 1 1	Alarm when input is 1 Alarm when input is 1 Alarm when input is 1 Alarm when input is 1	, momentary operation , momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-6	10 1 2 3 4 5 6	311[0 311[0 311[0 311[0 311[0 311[0 311[0	1.0 1.1 1.2 1.3 1.4 1.5	PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3 PLC digital 3	3 4 5 6 7	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register		1 1 1 1 1 1 1	Aam when input is 1 Aam when input is 1	momentary operation momentary operation momentary operation momentary operation momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-6 2-7	1/0 1 2 3 4 5 6 7	311[0 311[0 311[0 311[0 311[0 311[0 311[0 311[0	1.0 1.1 1.2 1.3 1.4 1.5 1.6	PLC digital 3 PLC digital 3	3 4 5 6 7 8	PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register PLC Bt Register		1 1 1 1 1 1 1 1 1	Ram when input is 1 Ram when input is 1	, momentary operation , momentary operation , momentary operation , momentary operation , momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-5 2-6 2-7 2-8	1/0 1 2 3 4 5 5 6 7 8	311[0 311[0 311[0 311[0 311[0 311[0 311[0 311[0 311[0	1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7	PLC digital 3 PLC digital 3	3 4 5 6 7 8 9	PLC Bt Register PLC Bt Register		1 1 1 1 1 1 1 1 1	Ram when input is Nam when input is Aam when input is Aam when input is Nam when inpu	, momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-5 2-5 2-6 2-7 2-8 2-9	10 1 2 3 4 5 6 7 8 9	311[0 311[0 311[0 311[0 311[0 311[0 311[0 311[0 311[0 311[0	1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8	PLC digital 3 PLC digital 4	3 4 5 6 7 8 9 0	PLC Bit Register PLC Bit Register		1 1 1 1 1 1 1 1 1 1 1 1	Alam when input is Nam when input is	, momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-5 2-5 2-6 2-7 2-8 2-9 2-10	101 122 344 556 778 899 10	311 [0 311 [0	1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9	PLC digital 3 PLC digital 4 PLC digital 4	3 4 5 6 7 8 9 0 1	PLC Bit Register PLC Bit Register		1 1 1 1 1 1 1 1 1 1 1 1	Alarm when input is Alarm whe	, momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-5 2-5 2-5 2-7 2-8 2-9 2-10 2-11	10 1 2 3 4 5 6 7 8 9 10 11	311 [0 311 [0	1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 1.10	PLC digital 3 PLC digital 4 PLC digital 4 PLC digital 4	3 4 5 6 7 8 9 0 1 2	PLC Bit Register PLC Bit Register		1 1 1 1 1 1 1 1 1 1 1 1 1 1	Alam when input is Nam when input is	momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-5 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12	L/O 1 2 3 4 5 6 7 8 9 10 11 12	311 [0 311 [0].0].1].2].3].4].5].6].7].8].9].10].11	PLC digital 3 PLC digital 4 PLC digital 4 PLC digital 4 PLC digital 4 PLC digital 4	3 4 5 6 7 8 9 0 1 2 3	PLC Bit Register PLC Bit Register		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Alarm when input is Rarm when input is Rarm when input is Alarm when input is Alarm when input is Rarm w	, momentary operation , momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-5 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12 2-13	10 1 2 3 4 5 6 7 8 9 10 11 12 13	311 [0 311 [0].0].1].2].3].4].5].6].7].8].9].10].11].12	PLC digtal 3 PLC digtal 4 PLC digtal 4 PLC digtal 4 PLC digtal 4 PLC digtal 4	3 4 5 7 8 9 0 1 2 3 4	PLC Bit Register PLC Bit Register		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Alam when input is Nam when inp	, momentary operation , momentary operation		
Ref 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12 2-13 2-13 2-14	100 1 2 3 4 5 6 7 8 9 10 11 12 13 14	311 [0 311 [0].0].1].2].3].4].5].6].7].8].7].8].9].10].11].12].13	PLC digital 3 PLC digital 4 PLC digital 4 PLC digital 4 PLC digital 4 PLC digital 4	3 4 5 6 7 8 9 0 1 2 3 4 5	PLC Bit Register PLC Bit Register		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ram when input is 1 Ram wh	, momentary operation , momentary operation		

Figure 13-1: EtherNet/IP Example 2 – Assign Assembly 311 to blocks 2 thru 9

Operation Conne	ect <u>H</u> el	þ					
	<u> </u>					Quick setup check list. Press START to begin.	. ₹≣
Moc	Jule Prop	perties: B1285-P	2 (address=2)				
WARE				-			
	Mod	ule Settings	PLC Comm Settings	Block Addresses	Ema	il / Web Server	
TION	+ Ph	erNet/IP	Modbus/TCP	• RS232 + R	5485		
ЕСТ [] Г	Local	PLC Network	Ger	neric I/O Adapter Connection			
	Devic	e IP Addr: 010.	.000.050.168	Assembly S	lize		
			Inc	ut: 101 - 16	(16 bi	R)	
move			0	tput: 311 • 8	(16 bi	a) Assembly	
				nfiguration: 102 10	(8 bit)	Manajan	
85-M1				Ingulation. [102]10	(o bit)		
185-T1 6							
285-P2	iule I/O						
285-P2 Mod		[A.d.	[News	1	10	(Decodering	
285-P2	1/0	Address	Name	Type	Group	Description	
285-P2 Mod Ref 0-1	1/0	Address	Input Supply	Voltage Input	•	disabled	
285-P2 Mod Ref 0-1 0-2	1/0 1 2	Address	Input Supply Power Failure	Voltage Input Digital Input	Group -	disabled disabled	
285-P2 Ref 0-1 0-2 0-3	1/0 1 2 3	Address	Input Supply Power Failure System Alarm	Voltage Input Digital Input Internal Status	•	disabled disabled Internally generated	
285-P2 Ref 0-1 0-2 0-3 0-4	1/0 1 2 3 4	Address	Input Supply Power Failure System Alarm Module Major	Voltage Input Digital Input Internal Status Internal Status	•	disabled disabled internally generated internally generated	
285-P2 Ref 0-1 0-2 0-3 0-4 0-5	1/0 1 2 3 4 5	Address	Input Supply Power Failure System Alarm Module Major Module Minor	Voltage Input Digital Input Internal Status Internal Status Internal Status	•	disabled disabled Internally generated Internally generated Internally generated	
285-P2 	1/0 1 2 3 4 5 1	Address	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay	•	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1	
285-P2 Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7	1/0 1 2 3 4 5	Address	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay	•	disabled disabled Internally generated Internally generated Internally generated New Alam Exists in Group 1 Error Condition: Exists	
285-P2 Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8	1/0 1 2 3 4 5 1	Address	Input Supply Power Failure System Alarm Module Major Module Mnor Auto Relay 1 Auto Relay 2 Active Shift	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status	•	dsabled dsabled httemally generated httemally generated httemally generated New Alam Exists in Group 1 Error Condition Exists Currert Shift	
285-P2 Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-9 0-9 0-9 0-9 0-9 0-9 0-9	1/0 1 2 3 4 5 1 2	Address	Input Supply Power Failure System Alarm Module Major Module Minor Auto Relay 1 Auto Relay 2 Active Shift Group 1 Status	Voltage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status	•	dasbled dasbled Internally generated Internally generated Internally generated Internally generated New Alam Exets in Group 1 Error Conditor Distas Currer Shrft Corted Shtus	
285.P2 Ref 0-1 0-2 0-3 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-1 0-7 0-7 0-8 0-1 0-2 0-3 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4	1/0 1 2 3 4 5 1 2	Address	Input Supply Power Failure System Alarm Module Major Module Major Auto Relay 1 Auto Relay 2 Active Shift Group 1 Status Group 2 Status	Voltage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status	•	disabled disabled Hermally generated Hermally generated Hermally generated Hermally generated Merw Alam Exits in Group 1 Error Condition Exits Condet Status Coded Status Coded Status	
285.P2 Ref 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 0.10 0.11 0.11 0.11 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 0.10 0.1 0.1 0.2 0.3 0.4 0.5 0.5 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7	1/0 1 2 3 4 5 1 2	Address	Input Supply Power Failure System Alarm Module Major Module Major Auto Relay 1 Auto Relay 2 Active Shift Group 1 Status Group 2 Status Group 3 Status	Votage Input Digital Input Internal Status Internal Status Auto Relay Auto Relay Shift Status Group Status Group Status Group Status	•	disabled disabled Harmaly generated Harmaly generated Harmaly generated Terrnaly generated New Nam Exits n Group 1 Enric Contition Exits Current Shrk Coded Satus Coded Satus Coded Satus	
285.P2 -Mod Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-11 0-11 0-11 0-1 0-2 0-3 0-4 0-5 0-5 0-5 0-5 0-5 0-5 0-5 0-5	1/0 1 2 3 4 5 1 2	Address	Input Supply Power Failure System Alarm Module Major Module Major Auto Rolay 1 Auto Rolay 1 Auto Rolay 2 Autore Shift Group 1 Status Group 2 Status Group 2 Status	Voitage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay Auto Relay Group Status Group Status Group Status Group Status	•	disabled disabled Hermally generated Hermally generated Hermally generated Hermally generated Merw Alam Exits in Group 1 Error Condition Exits Conder Status Coded Status Coded Status	
285.P2 Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-12 0-13 0-13 0-13 0-13 0-14 0-1 0-1 0-2 0-3 0-4 0-5 0-5 0-5 0-5 0-5 0-5 0-5 0-5	1/0 1 2 3 4 5 1 2	Address	Input Supply Power Falure System Alam Module Major Auto Relay 1 Auto Relay 2 Active Shift Group 1 Status Group 3 Status Group 4 Status Group 4 Status	Voitage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay Auto Relay Group Status Group Status Group Status Group Status Group Status Group Status	•	disabled disabled Harmally generated Harmally generated Harmally generated Harmally generated New Name Exists a Group 1 Entre Condition Exists Current Shrit Coded Satus Coded Satus Coded Satus Coded Satus Coded Satus	
285.P2 -Mod Ref 0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9 0-10 0-11 0-11 0-11 0-11 0-1 0-2 0-3 0-4 0-5 0-5 0-5 0-5 0-5 0-5 0-5 0-5	1/0 1 2 3 4 5 1 2	Address	Input Supply Power Failure System Alarm Module Major Module Major Auto Rolay 1 Auto Rolay 1 Auto Rolay 2 Autore Shift Group 1 Status Group 2 Status Group 2 Status	Voitage Input Digital Input Internal Status Internal Status Internal Status Auto Relay Auto Relay Auto Relay Group Status Group Status Group Status Group Status	•	dsabled dsabled Hernaly generated Hernaly generated Hernaly generated Hernaly generated New Asom Exits in Group 1 Error Condition Exits Control Shift Coded Status Coded Status Coded Status Coded Status	

Figure 13-2: EtherNet/IP Example 2 – Noting the Adapters used and their sizes

14. EtherNet/IP PLC Configuration

The following series of RSLogix 5000 screenshots shows a representative PLC configuration for connection to the B1285-P2.

Note: Firmware for Rockwell controllers must be a minimum of Rev 18 to show the "Use Unicast Connection over EtherNet/IP" option. Older firmware may indicate error code 16#0203.

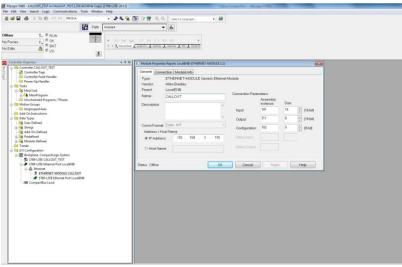


Figure 14-1: RSLogix Screenshot 1

Vew Module					
Type:	ETHERNET-MODULE Generic Et	hemet Module			
Vendor:	Rockwell Automation/Allen-Bradle	y			
Parent:	Local				
Name:		Connection Para	meters		
Description:			Assembly Instance:	Size:	
		Input:		125	◆ (32-bit)
		Output:		124	◆ (32-bit)
Comm Format:	Data - DINT	Configuration:		0	(8-bit)
Address / Ho	Data - DINT			-	• (0 bit)
IP Addres	Data - DINT - With Status Data - INT	Status Input:			
⊖ Host Nan	Datal - INT - With Status Data - REAL Data - REAL - With Status Data - SINT	Status Output:			
Open Modul	Data - SINT - With Status Input Data - DINT Input Data - DINT - Run/Program	ОК	Can	cel	Help

Figure 14-1: RSLogix Screenshot 2

Make sure to select 16bit Int

	Rilogis 5000 - CALLOUT, TEST in CALLOUT, TEST L35E ACD(File Copy) (1769-L35E 20.11)		
Image: Section Construction Construction Factor Mathematic Section Factor Mathematic Section Factor Fact		Access August 100 and 100	
Image: Source			
Office 1 <th></th> <th></th> <th></th>			
The Finder is a finite of the	Path: <none></none>	★ Å	
No control of the set	Offine 5. FRUN		
No Call Control Call Call Call Call Call Call Call Ca			
Control • * * Control • *		Addon & Bably & Aleren & B. & Teleno	
Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics Image: Section of the CALOPT VIST Image: Connection Medical Mathematics	- V0		
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Page-rest Product Intervol PD 24 0 0 mm Markington Page-rest Product Intervol PD 24 0 0 mm Markington The Add Add Add Add Add Add Add Add Add Ad	P Controller CALLOUT_TEST		
Page-rest Product Intervol PD 24 0 0 mm Markington Page-rest Product Intervol PD 24 0 0 mm Markington The Add Add Add Add Add Add Add Add Add Ad	Controller Fault Handler	Landia Compositi McCulla PE	
Montak	Power-Up Handler	Provident Product Internal (PPR) 200 Trans. (0.0, 2000 Decol.	
Sub-Support Sub-Suppo			
Concept Angle Concept and	MainProgram		
El Understand Action Derstand Action Derstand Derstan		C Major Fault On Controller If Connection Fails While in Run Mode	
	Ungrouped Aves	2 Use Unicast Connection over EtherNet/IP	
Inter-Street Model Finil			
A do Co Linder A do Co Linder	- Quer-Defined	Market First	
Image: An Andread Image: Andread Imag		Mouve Faur	
	In Car Predefined		
10 100 LUK CALLOUT, ET 40 100 LUK Mondrifs Luci008 10 100 LUK Mondrifs Luci008 10 200 LUK Mondrifs Luci008 100 LUK Mondrifs Luci008 Detect			
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▲ 1766-135E Ethemet Port LocalEN®	p & Ethernet		

Figure 14-2: RSLogix Screenshot 3

EtherNet/IP PLC Configuration

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	142 - 27 - 27 - 27 - 20 - 2.5 144 - X - 2017 X - 2017 X - 2017 X - 2017	, 						
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Gentrolier CALLOUT_TEST Gentrolier Tags	Name	1814 Alins For	Base Tag	Dete Type	Description	External Access	Consteat	1
Controller Fault Handler	* CALLOUTIC			AB ETHERNET_MODULE CO	1	Parad/White		
- Ca Power-Up Handler	+ CALLOUTS			ABETHERNET_MODULE_INT_328/we10		Read/White	0	
0.48 MeinTeilt	+ CALLOUTO			ABETHERNET_MODULE_INT_109/mt-0.0		Fiend/White		
MainProgram Uncheduled Programs / Phases	CALLTEST		14	BOOL	Toggle this bit High it.	Read/White	15	0
	2						-61	Т
Image Transit Image Transit Image Transit Advancement Image Transit Advancement								

Figure 14-3: RSLogix Screenshot 4

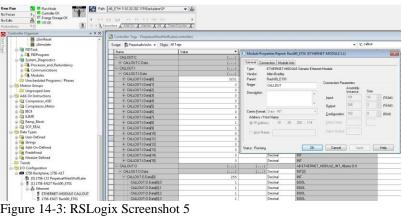


Figure 14-3: RSLogix Screenshot 5

15. Using the Web Server

The PLC Network settings will need to be configured using the programming software prior to accessing the Web Server.

While connected to your unit using the programming software, navigate to Hardware > B1285-P2 > PLC Comm Settings > EtherNet/IP. It is here that you will configure your network.

Once configured, the Device IP Address is the address you will use to connect to the B1285-P2.

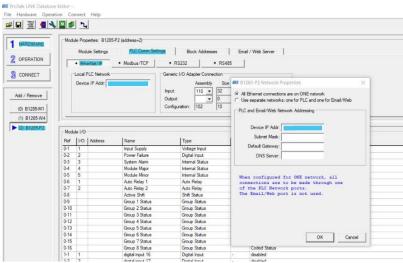


Figure 15-1 Network Configuration

Simply log in to your network and enter the Device IP Address in a browser search bar.

If you have multiple groups of alarms, the screen will show each group as a block.

Groups with an active alarm will appear in red, groups with acknowledged alarms will appear in yellow and groups that are idle will appear in blue.

Click View Details to see more information about the group or acknowledge alarms.

BEARNETT ENGINEERING LT Default Database System Summary	г о .
Default Group 1 digital input 18: 1 digital input 17: 1	Default Group 2 digital input 18: 0 digital input 19: 0
Ven Details	View Details

Figure 15-2 System Summary

Inputs within the group that are currently in an alarm state will be highlighted red. You can acknowledge the alarms for the selected group by clicking the acknowledge button.

Note: analog inputs will display a measured value; digital alarms are on or off.

System Summary Default Group 1 Ref Nam						
Ref Nan	944					
	ma					
		Туре	Group	Value	Status	
0-6 Auto	to Relay 1	Auto Relay	1	ON	-	
0-7 Auto	to Relay 2	Auto Relay	1	OFF		
64 ogt	fol oper 18	Cigital report	4	1	Aaring	
1-3 digi	tal input 18	Digital Input	1	0	Idie	
1-4 dgr	tal input 19	Digital Input	1	0	Idie	
1-5 dgr	tal input 20	Digital Input	1	0	Idie	

Figure 15-3 Group Inputs Alarm State

Acknowledged alarms appear in yellow. Inputs in an idle state will not be highlighted.

Default System S	Database					
Default G	roup 1					
Ref	Name	Type	Group	Value	Status	
0-6	Auto Relay 1	Auto Relay	1	077		_
0-7	Auto Relay 2	Auto Relay	1	OFF		
1-1	digital Input 16	Digital Input	1	1	Acked	
1-2	digital input 17	Digital Input	1	1	Acked	
1-3	digital input 18	Digital Input	1	0	Ide	
1-1	digital input 19	Digital Input	4	0	Ide	
1-5	digital input 20	Digital Input	4	0	lde	
1-6	digital input 21	Cligital Input	4	1	Acked	
	again april 1	Collinear solution			-	

Figure 15-4 Group Inputs Acknoweldge State

Opening the Event Log will provide you with a limited event history for the unit.

BEBARNETT ENGINEERING LTD.	🛒 System Summary	di System Into	Event Log 🌣
Default Database			
Event Log			
101.011 Term Annual Constraint 102.012 11.011 Term Annual Constraint			
2021.00.15 10:16:09 Using shift 1 1011 00 15 10:16:00 Channe to BUN mode			
Figure 15 5 Event Log			

Figure 15-5 Event Log

System Info provides details about the individual modules in the system.

Default									
Connec	ted Modul	les							
Address	Type	Serial No	Hardware	Firmware	Options	Status			
0	MT	0617010	1 20	2.43	CHO10				
1	T1	2045024	1.20	2.06	0/0/0				
2	P2	1506001	1.20	2.06	000	PLC/MAR 10/21 191			

Figure 15-6 System Info