

Industri<mark>al</mark> Automation

How to Use BLXX-GW-EN with Red Lion

HOW TO



INTRODUCTION

About this Startup Guide

This startup guide contains step by step instructions to setup communication between a Turck BL Modbus TCP/IP Standard Gateway and a Red Lion display. This startup guide was written using a G310, however other models should be able to use a similar setup procedures.

REQUIRED PARTS

Hardware

The following hardware was used to create this startup guide. Other hardware may be used, however some steps may need to be changed to accommodate the different hardware.

- BL67-GW-EN Standard Modbus TCP/IP Gateway
- BL67-8DI-P 8 Digital Input Card
- BL67-B-4M12 BL67 Base Module with 4 M12 connectors
- BL67-8DO-R-NO 8 Normally Open Relay Card
- BL67-B-4M12 BL67 Base Module with 4 M12 connectors
- G310 Red Lion 10" G3 Display
- SE-44X-E924 9 Port Unmanaged Ethernet Switch
- RSSD RJ45S 441-2M –Ethernet Cable from HMI to Ethernet Switch
- RSSD RJ45S 441-2M –Ethernet Cable from PC to Ethernet Switch
- RSSD RSSD 441-2M Ethernet Cable from BL67 to Ethernet Switch
- USB Programming cable for HMI
- PC loaded with required software

Software

The following software will be used and described in this startup guide.

- Pactware loaded with BL DTMs 1.000.0700 Available at www.turck-usa.com
- Crimson 2.0 Release Build 485G Available at www.redlion.net

SETUP

Hardware Setup

1. Prepare the BL67 Hardware to look like the following:



2. Set the IP Address of the gateway to 192.168.1.90 using the rotary switches. They should be setup like this:



- 3. Power up the gateway. The IO LED will be blinking red.
- 4. Press and hold the SET button for 10 seconds to store the gateway configuration.
- 5. Power up the Ethernet Switch and HMI.
- 6. Connect Ethernet cable from BL67 to Ethernet Switch.
- 7. Connect Ethernet cable from HMI to Ethernet Switch.
- 8. Connect Ethernet cable from Ethernet Switch to PC.
- 9. Connect USB cable from HMI to PC.

PC Setup

1. Open the "Network Connections" folder.



2. Right click on the "Local Area Connection" icon and choose "Properties."

eneral Authentic	ation Advanced
Connect using:	
Intel(R) PR	0/1000 PL Network Conn Configure
This connection u	ses the following items:
File and F	Printer Sharing for Microsoft Networks ket Scheduler
Internet F	Protocol (TCP/IP)
<	>
Install	Uninstal Properties
Description	
Transmission Co wide area netwo across diverse i	ontrol Protocol/Internet Protocol. The default ork protocol that provides communication interconnected networks.
Show icon in n	otification area when connected
Notify me wher	n this connection has limited or no connectivity

3. Highlight "Internet Protocol (TCP/IP)" and click on the "Properties" button.

nternet Protocol (TCP/IP) P	roperties 🛛 🥐
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You can get IP settings assigned this capability. Otherwise, you ne the appropriate IP settings.	automatically if your network supports ed to ask your network administrator for
Obtain an IP address autom	atically
• Use the following IP addres	
IP address:	192.168.1.35
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	2 2 3.
Obtain DNS server address	automatically
✓ ③ Use the following DNS serv	er addresses:
Preferred DNS server:	
Alternate DNS server:	
	Advanced
	OK Cancel

4. Choose the "Use the following IP address" option and set the IP address to 192.168.1.x. The x can be set to anything from 0-255 and must be a unique number. It cannot be the same as the IP address chosen for the gateway.

5. The "Subnet Mask" should be set to 255.255.255.0.

6. Close the "Internet Protocol (TCP/IP) Properties" and "Local Area Connection Properties" windows by clicking the "OK" button.

GET MODBUS TCP/IP DATAMAP OF THE BL67

The datamap of the BL products can be easily generated using Pactware and the BL DTMs.

1. Open Pactware



2. Right Click on Host PC, click "Add Device".

BL Service Ethernet BL Service R5232 C200HW-PRM21 C11W-PRM21 PROFIBUS DP-V1 Master	BL Service Ethernet BL Service PROFIBUS	Turck Turck	DTM specific DTM specific	1.0.0 / 2007-06-12
BL Service R5232 T C200HW-PRM21 C210W-PRM21 PROFIBUS DP-V1 Master	BL Service PROFIBUS	Turck	DTM specific	1.0.0 / 2007-06-12
C200HW-PRM21 C31W-PRM21 PROFIBUS DP-V1 Master	PROFIBUS			
CJ1W-PRM21 PROFIBUS DP-V1 Master	C.	OMRON Corporation	FDT	V1.04 / 1998-10-01
	Profibus DP/V1; Prof	OMRON Corporation	FDT	V2.xx / 2006-05-29
CJ1W-PRM21 PROFIBUS Master	Profibus DP/V0	OMRON Corporation	FDT	V1.xx / 2006-05-29
CS1W-PRM21 PROFIBUS DP-V1 Master	Profibus DP/V1; Prof	OMRON Corporation	FDT	V2.xx / 2006-05-29
CS1W-PRM21 PROFIBUS Master	Profibus DP/V0	OMRON Corporation	FDT	V1.xx / 2006-05-29
HART Communication	HART	CodeWrights GmbH	FDT	1.0.25 / 2006-03-28
TCI Communication	Profibus_DPV1	PACTware Consortiu	TCI	
TCI Communication	Profibus_DPV1	PACTware Consortiu	TI	

3. Highlight BL Service Ethernet, and click "OK".



4. Right click on the new ethernet device -> Additional Functions -> Busaddress Management.

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TCP/IP <tcp ip="">BL Service Etherne</tcp>	Description BL Service over ethernet communication DTM	laduation 0
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	Device type Online ID IP address Netmask Gates	way Ethern
	Planned devices	
	Device type Online ID Busaddress Designation ('Tag')	Device short r
	<u></u>	
	OK Cancel	Apply
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5. Click on the in the toolbar above "Online Available Devices" tab. This will search for any available online devices.

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6. Click on the on the same toolbar as the previous search button. This will add the highlighted gateway to the current project. It will ask if the connected slices should be added as well. Click "OK".

The gateway has been adde	d to the station: Furthe	er Options	GX	
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7. Highlight the gateway in the Project view on the left hand side.

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*** -/ <01,-/->BL67-8DI-P			aarooo managomom
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	BL67-PG-DP 1004	112 <u>192.168.1.20</u> 255.255.255.0	192.168.1.1 00:07:-
	BL67-GW-EN-PN 1200	15 <u>192.168.1.64</u> 255.255.255.0	192.168.1.64 00:07:-
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8. Right click on the gateway that was just highlighted, Additional Functions -> Station Report.

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9. Here a number of different documents can be generated. For just the Modbus Map, check "ModBus report".

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10. Click "OK" to generate the Modbus datamap.

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	1.2. I/O map for input data	
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11. Click the button to generate a pdf file of the datamap.

Station report

Created by NClute

1. Modbus report

1.1. Station description

Station address: 192 168 1 90

	Summarized diagnostics		1 Word	u words	
	Local I/O data Incl. status/control		1 Word	1 Word	
2	BL67-8DO-R-NO	-1-	0 bit	8 bit	
1	BL67-8DI-P	-1-	8 bit	0 bit	
0*	BL67-GW-EN	192.168.1.90/-	0 bit	0 bit	
Adr./Slot	Name	TAG	Data Size in	Data Size Out	

*For detailed information about status/control word see online help

1.2. I/O map for input data

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0x0000 10x0001 10x0003	0000 0001 0003	GWL 16	GW:14	GW.13	GW.12	GWL11	GW.10	GW.09	GW08	01.07 GW.07	01.08 GW.06	01.05 GW.05	01.04 GW.04	01.03 GW.03	01.02 GW.02	01.01 GW.01 M01	01.00 GW.00 M00

Description: 1.Column-Register, n. Column-Modul number.register [•]) GW: gateway status-idlagnostics bits ^{••}) M: module diagnostics (1 bit for each module)

Process Input data: 3 Words

1.3. I/O map for output data

 Register
 Bit position

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Description: 1.Column-Register, n. Column-Modul number.register

Process output data: 1 Word

SETTING UP RED LION G310

1. Start Crimson 2.0.

ew Database					B
Product Family	Select Model -				
G3 Series HMI	G303	Monochrome HMI	Landscape	3"	
Modular Controller	G306	Monochrome HMI	Landscape	6"	-
Data Station	G306	Color Touch Panel	Landscape	6"	
CUB5 Panel Meters	G308	Color Touch Panel	Landscape	8"	
Large Display Series	G310	Color Touch Panel	Landscape	10"	
PAX Panel Meters	G315	Color Touch Panel	Landscape	15"	
Panel Meter Gateways	G304 Kadet	Color Touch Panel	Landscape	4"	
T/P16 PID Controllers	G306 Kadet	Color Touch Panel	Landscape	6"	
T/P48 PID Controllers	G308 Kadet	Color Touch Panel	Landscape	8"	-
T/PCU PID Controllers					
		Cancel			
	UN .				

2. Choose the model of Red Lion HMI that is being used. This startup guide used a G310.

53 Series HMT	G303	Monochrome HMI	Landscape	3"	
Modular Controller	G306	Monochrome HMI	Landscape	6"	
Data Station	G306	Color Touch Panel	Landscape	6"	
TUB5 Panel Meters	G308	Color Touch Panel	Landscape	8"	
arge Display Series	G310	Color Touch Panel	Landscape	10"	
AX Panel Meters	G315	Color Touch Panel	Landscape	15"	-
Panel Meter Gateways	G304 Kadet	Color Touch Panel	Landscape	4"	
/P16 PID Controllers	G306 Kadet	Color Touch Panel	Landscape	6"	
/P48 PID Controllers /PCU PID Controllers	G308 Kadet	Color Touch Panel	Landscape	8"	-

3. Click "OK".



Setup Communications

1. Double click on "Communications".





2. Highlight "Ethernet" from the left treeview.

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Communications	يوري ريوني ريوني ريوني ريوني ريوني ريوني	×
⊡- 🔜 G3	Port Settings	
	Port Mode: Disabled	
=0 RS-485 Comms Port	IP Address; 192 , 168 , 1 , 10	
Protocol 1		
Protocol 2	1980WUTK Mask: 200 , 200 , 200 , 0	
Protocol 3	Gateway: 0 , 0 , 0 , 0	
Mail Manager	IP Routing: Disabled	
- PC Server	Physical Laver	
FTP Server	☑ Enable Full Duplex	
Sync Manager	Enable High Speed	
	Maximum Segment Size	
	For Send: 1280	
	For Receive: 1280	
	Remote Update	
	IP Download: Disabled	
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4. Change the "Port Mode" dropdown to "Manual Configuration".

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5. Click on the "Edit..." button in the "Driver Selection" frame.

river Picker for Ethernet Port		B
Manufacturer	Driver	
AC Tech Adenus Allen Bradley Alstom BACnet Banner Beckhoff EtherNet/IP	No Driver Selected Raw TCP/IP Active Version 1.00 Raw TCP/IP Passive Version 1.00	~
EZ Automation Galil GE	OK Cancel Help	

6. Choose "Modbus" from the left list.

<u>M</u> anufacturer	Driver	
GE	No Driver Selected	
Honeywell	Encapsulated Modbus Master Version	1.01
Maguire	TCP/IP Master Version	1.05
Mitsubishi	TCP/IP Slave Version	1.02
Modbus		
Omron		
OPC		
Panasonic - Matsushita		
Parker		+
Phoenix Contact		3.5
PLC Direct Koyo		
Siemens		

7. Choose TCP/IP Master from the right list.

Manufacturer	Driver	
GE Anneywell Maguire Mitsubishi Modbus Omron OPC Panasonic - Matsushita Parker	No Driver Selected Encapsulated Modbus Master Version 1.01 TCP/IP Master Version 1.05 TCP/IP Slave Version 1.02	
Phoenix Contact PLC Direct Koyo Siemens		

8. Click "OK".

r⊉Untitled File - G310 - Crimson 2.0 File - Edit - View Link Help		B_D×
Communications G G3 Programming Port RS-232 Comms Port C Server Protocol 1 - Modbus TCP/IP Master Protocol 3 Protocol 3 Protocol 3 Protocol 4 Services Mail Manager Protocol 4 Services Mail Manager Sync Manager Sync Manager	Driver Selection Driver: Modbus TCP/IP Master Edit Clear Port Settings Add Additional Device	
Port 4	0	VER CAPS NUM

9. Right Click "PLC1" on the left treeview, click "Rename". Rename it to "BL67"

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Communications Programming Port RS-232 Comms Port RS-485 Comms Port RS-485 Comms Port Protocol 1 - Modbus TCP/IP Master Protocol 2 Protocol 3 Protocol 3 Protocol 4 Protocol 4 Protocol 5 Protocol 1 - Modbus TCP/IP Master Protocol 1 - Modbus TCP/IP Master Protocol 2 Protocol 3 Protocol 4 Protocol 4 Protocol 7 Protocol 4 Protocol 9 Protocol 4 Protocol 9 Protocol 0 Protocol 9 Protocol 9	8
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10. Change the IP Address field to our BL67 IP Address, 192.168.1.90.

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Communications Image: Solution of the solutio	
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11. Click "Close".

Setup Data Tags

1. Double click on "Data Tags".

2. Click on the "Integer" button on the right hand side in the "Create New Variable" frame.

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Data Tags	Geo Create New Variable Flag Integer Multi Real String Create New Formula Flag Integer Multi Real String Create New Formula Flag Integer Multi Real String Create New Array Flag Integer Multi Real String Import and Export Export to File Import from File Utilities Utilities Validate All Tags Remap Retentive Tags Show Tag Viewer Copy Multiple Tags Delete Multiple Tags View Tags Online Sort Tags Sort Descending	
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3. Right click on "Var1" in the left treeview, click "Rename". Rename this to "DI".

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aba Tags Image: Tags	Edit

4. Click on the "Internal" button in the "Variable Data" frame on the right hand side. Choose "BL67"



5. Modbus data can be accessed as different data types. The "Data Item" frame allows you to choose which data type in hich to access the data. For this example, select "Holding Registers" which will access the data in words.

<none></none>	No Selection	4 00001	
1	Holding Registers		
3	Analog Inputs		
D	Digital Coils		
1	Digital Inputs		
.4	Holding Registers (32-bit)	Details	
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		Type: woru	
		Minimum: 400001	
		Maximum: 465535	
		Padiy: Decimal	
ata <u>T</u> ype			
Word as V	Word		

6. Referring to our Modbus Datamap, we see that our Digital Inputs are in register 0x0000 or 0000.

			· · · · · · · · · · · · · · · · · · ·	A. 1.	2		sition	Bit po	10. X	10	an		15	10 C		iter	Regis
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Dec	Hex
01.00 GW.00 M00	01.01 GW.01 M01	01.02 GW.02	01.03 GW.03	01.04 GW.04	01.05 GW.05	01.06 GW.06	01.07 GW.07	- GW.08 -	- GW.09 -	GW.10	GW.11	GW.12	GW.13	GW.14	- GW.15	0000 0001 0003	Dx0000 "0x0001 "*0x0003
11	GW.0 M01	GW.02 -	GW.03 -	GW.04 -	GW.05	GW.06	GW.07 -	GW.08 -	GW.09 -	GW.10	GW.11	GW.12	GW.13	GW.14	GW.15 -	0001 0003	"0x0001 "*0x0003

7. Red Lion uses decimal numbering for the Modbus registers. However, they also do not use "0000" as a register, but rather they increase all Modbus registers by 1. So the digital input data will be found in register 00001. Verify that this is what is in your "Element" textbox, and click "OK".

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Data Tags	Variable Data Mapping: BL67 Sign Mode: Driver Default Sign Mode: Driver Default Storage: Non-Retentive Simulation: 0 Scaling and Transforms Round Transform: None Storage: 0 Transform: None Scaling and Transforms Round Source Data: 32-bit Integer Store As: 0 To: Plopint Enable: No Enable: No SP Value: On Write: None On Write:	
To include this tag in a custom web page, use [[0]]		OVER CAPS NUM

*Notice: In the "Variable Data" frame, the Mapping: line will have combined the "holding register" number "4" and the actual modbus register "00001" into "400001".

8. Highlight the "Tags" item in the left hand treeview.

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Data Tags Image: String Image: String Create New Variable Flag Integer Multi Real String Create New Formula Create New Formula Flag Integer Multi Real String Flag Integer Multi Real String Import and Export Export to File Utilities Validate All Tags Remap Retentive Tags Show Tag Viewer Copy Multiple Tags View Tags Online Sort Tags Sort Ascending Sort Descending	
Glose	
OVER.	CODE NUM

9. Click on the "Flag" button on the right hand side in the "Create New Variable" frame.

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	4		•
			_
Data Tags Tags Vari Vari	Logging Main	Create New Variable Flag Integer Multi Real String Create New Formula Flag Integer Multi Real String Create New Formula Flag Integer Multi Real String Create New Array Flag Integer Multi Real String Import and Export Export to File Import from File Utilities Validate All Tags Remap Retentive Tags Show Tag Viewer Copy Multiple Tags Delete Multiple Tags View Tags Online Sort Tags Sort Descending Sort Descending	×
Glose			
		OVE	R CAPS NUM

10. Right click on "Var1" in the left treeview, click "Rename". Rename this to "DO1".

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	Veriable Data Mapping: Veriable Data Storage: Non-Retentive V Simulation: Off Veriable Data Setpoint Enable: No SP Value: Veriable Data Actions Co Write: None	
To include this tag in a custom web page, use [[1]]	OVER	R CAPS NUM

11. Click on the "Internal" button in the "Variable Data" frame on the right hand side. Choose "BL67"

ata Item -		Element
<none> 4 3 0 1</none>	No Selection Holding Registers Analog Inputs Digital Colls Digital Inputs Moline Colls	None None
L4	Holding Registers (32-bit)	Type: Minimum: Maximum:
oata <u>T</u> ype		Radix:

12. Again, select "Holding Registers".

ata Item -		Element	
<none> 4 3 0 1 1 L4</none>	No Selection Holding Registers Analog Inputs Digital Colis Digital Inputs Holding Registers (32-bit)		
Word as L Word as R	ong Real		1

13. Referring to our Modbus Datamap, we see that our Digital outputs are in register 0x0800 or 2048.

1.3. I/C) map	for	outpu	it dat	a												
Regi	ster	1							Bitp	osition							
Hex	Dec	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0x0800	2048		-	-	1	23	<u>.</u>	2	1.2	02.07	02.06	02.05	02.04	02.03	02.02	02.01	02.00
Descriptio <u>Process</u> (n: 1.Col output d	umn=R lata: 1	egister, <u>Word</u>	n. Colur	nn=Moo	dul num	ber.regi	ster									

14. So now we must fill in 2049 into the "Element" text box. Remember this is because Red Lion uses a "Decimal + 1" register numbering system.

ata Item		Element	
<none> 1 3 0</none>	No Selection Holding Registers Analog Inputs Digital Colls	4 2049	
L4 ata <u>T</u> ype	Holding Registers (32-bit)	Details Type: Word Minimum: 400001 Maximum: 465535 Radix: Decimal	
Word as V Word as L Word as P	Vord .ong teal		Help

15. Click "OK"

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🗅 🥔 🔛 🖉 X 🖻 🖄 X 🔄 🕈 🕂 🔲	\$	🐢 🗸
Ele Edit View Iag Link Help Data Tags State Tags Type Tags Typ	Set Variable Data Mapping: EL67 Happing: EL67 Bit Number: Bit 0 Access: Read and Write Storage: Non-Retentive Simulation: Off Setpoint Setpoint Enable: No SP Value: General Actions On Write: None On Write:	×
To include this tag in a custom web page, use [[1]]	OVER	CICAPS INUM

16. We want to tie this to DO1, which means we must point this to Bit 1 of the Modbus register. To do this, change the "Bit Number" dropdown on the left side from "Bit 0" to "Bit 1".

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Data Tags	Edite Variable Data Mapping: Bit Number: Bit Number: Bit 1 Access: Read and Write Storage: Non-Retentive Simulation: Off Setpoint Enable: Enable: No SP Value: General	idt
To include this tag in a custom web page, use [[1]]		ER CAPS NUM

17. Click "Close"

Setup User Interface

User Interface

1. Double Click on "User Interface".



2. Add an "Integer Text" onto the screen.

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<u>File</u> <u>E</u> d	t ⊻iew	Insert	<u>Arran</u>	ge <u>T</u> rans	sform [Page	Link !	Help													
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3. Double click on the new object to bring up its properties.

1	1		
roperties Data B	intry Format		
-Data Source			
Value:	General Default		Edit
Data Entry:	vo 💌	Flash on Ala	rm: No 💌
Show Label:	′es 💌	Show Value	Yes 💌
-Get From Tag —			
Field Label	🔽 Data	Format 🔽	Text Colors
Font: Foreground: Background:	Fixed WH Fixed Gradient	Pick.	·· Pick Pick
-Justification Horizontal:	enter 💌 Ver	tical: Middle	-
-Display State — Show Item:	General TRUE		Edit,
OK O	ancel		Set As Defaults

4. In the "Data Source" frame, click on the "General" dropdown and change it to "Tag". This will bring up the tag list.

Select Tag		BX
_ Iag List		
	L	
Sort Tags by:	Original Order	×
 ☐	able 💌	
OK	Cancel	

5. Select the "DI" tag. Then click "OK".

Integer Text	Properties				9
operties Data	Entry Form	at			
Data Source —					
Value:	🔻 Tag	DI			Pick
Data Entry:	No	-	Flash on Alarm:	No	-
Show Label:	Yes	•	Show Value;	Yes	_
Get From Tag					
Field Labe	n i	🔽 Data Format	🔽 Tex	t Colors	
Font:	Swiss 12×16		▼ Pick		
Foreground:	Fixed	White		•	Pick
Background:	Fixed	Gray			Pick
Justification —					
		Unitical M			
Horizontal:	Center	Vertical: IM			
Horizontal: Display State -	Center				22
Horizontal: Display State - Show Item:	Center General				Edit

6. Data can be represented in a number of ways on an HMI. Because we're looking at a slice of digital inputs, we should show them as a series of 1's and 0's. To do this, uncheck "Data Format" in the "Get From Tag" frame.

Integer Text	Properties				B
operties Data	Entry Forma	t			
-Data Source					
Value:	🔻 Tag	DI			Pick
Data Entry:	No	•	Flash on Alarm:	No	-
Show Label:	Yes	-	Show Value:	Yes	•
Get From Tag					
Field Labe	Ê .	🗖 Data Format	Tex 🗹	t Colors	
-Text Format					
Font:	Swiss 12×16		▼ Pick		
Foreground:	Fixed	White		•	Pick
Background:	Fixed	Gray		•	Pick
-Justification —					
Horizontal:	Center	Vertical:	Middle 🗾		
-Display State -	10				
Show Item:	▼ General	TRUE			Edit
OK	Cancel			Set As [)efaults

7. Change to the "Format" tab from the top tablist.

integer Text Pro	percies		
operties Data Ent	ry Format		
Data Label ———			
Label Text; DI			Translate
Data Limits			
Minimum Value:	▼ General		Edit
Maximum Value:	▼ General		Edit
Data Format	*	×	
Number Base:	Decimal	Sign Mode: U	nsigned 🔄
Digits Before DP:	5	Digits After DP:	0
Leading Zeros:	No	Group Digits:	• 💌
Prefix:	None		Translate
Suffix:	None		Translate
70.000	(and the		
OK Can	cel I		Set As Defaults

8. Change the "Number Base" dropdown in the "Data Format" frame to "Binary".

integer Text Pro	pertie <i>s</i>		
perties Data Ent	ry Format		
Data Label			
Label Text; DI			Translate
Data Limits			
Minimum Value:	▼ General		Edit
Maximum Value:	▼ General		Edit
Data Format		2 J	
Number Base:	Binary 💌] Sign Mode; [Unsigned 💌
Digits Before DP:	5	Digits After DP:	0
Leading Zeros:	Yes 💌	Group Digits:	No
Prefix:	None		Translate
Suffix:	None		Translate
			112
OK Cano	:el		Set As Defaults

9. Change the "Digits Before DP" to 8. (DP = Decimal Point)

antina I Data Eat	- Format		
perties Data Ent	ry Tormac		
Data Label			
Label Text; DI			Translate
Data Limits			
Minimum Value:	▼ General		Edit
Maximum Value:	▼ General		Edit
Data Format	-		
Number Base:	Binary 💌	Sign Mode: Un	signed 💌
Digits Before DP:	3	Digits After DP:	0
Leading Zeros:	Yes 💌	Group Digits: No	
Prefix:	None		Translate
Suffix:	None		Translate
	- T		

10. Click "OK".



11. Draw a "Flag Tag Button" on the screen.

Ele Edit View Insert Arrange Transform Page Link Help
Image: Section for the fact of
User Interface - Page1
Vser Interface - Page1 red Ion red Ion D D D D D D D D D D D D D D D D D D
DT. 00000000
нени
Liose
Position : (080, 224) - (552, 360) Size : (473, 137) Rich Button Selected

12. Double click on the new object to bring up its properties.

Rich Button	Properties			B
Properties Add	litional Image	s Data Entry Format		
Data Source -				
Value:	💌 General	Default		Edit,
Data Entry:	No			
Туре:	Toggle	•		
-Button Option	15			
Style:	3D Rectangl	•		
Layout:	Text at Top	and Bottom		
Show Label:	Yes	•		
Show Value:	Yes	•		
-Get From Tag				
🔽 Field Labe	el	🔽 Data Format	🔽 Text Colors	
– Display State				
Show Item:	▼ General	TRUE		Edit
ок	Cancel			S <u>e</u> t As Defaults

13. In the "Data Source" frame, click on the "General" dropdown and change it to "Tag". This will bring up the tag list.

Iag List	1	
Sort Tags by:	Original Order	•
Sort Tags by:	Original Order	<u> </u>

14. Select the "DO1" tag and click "OK".

Rich Button I	Properties				B
roperties Add	itional 🛘 Imag	es Data Entry Forma	st		
-Data Source -					
Value:	🔫 Tag	D01			Pick
Data Entry:	No	•			
Type:	Toggle		•		
-Button Option	s				
Style:	3D Rectang	le	•		
Layout;	Text at Top	and Bottom	~		
Show Label:	Yes	-			
Show Value:	Yes	•			
Get From Tag					
Field Labe	1	🔽 Data Format		🔽 Text Colors	
Display State	 General 			P TEXT COORS	Edit
ок	Cancel				S <u>e</u> t As Defaults

15. Change "Data Entry" dropdown to "Yes"

Rich Button	Properties			<u>ا</u>
operties Add	itional 🛛 Imag	es Data Entry Format		
Data Source -				
Value:	🔻 Tag	D01		Pick
Data Entry:	Yes			
Туре:	Toggle	•		
Button Option	s			
Style:	3D Rectang	le 💌		
Layout:	Text at Top	and Bottom		
Show Label:	Yes	•		
Show Value:	Yes	•		
Get From Tag				
Field Labe	:	🔽 Data Format	🔽 Text Colors	
Display State	(
Show Item:	💌 General	TRUE		Edit,
ок	Cancel			Set As Defaults

16. Click "OK".

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Pos	ition :	<u>⊆</u> lose (080,	224) - (\$	552, 360)	Size : (473)	, 137) Rich E	iutton Sel	ected							[7	DVER CAPS NUM

Download Project to HMI

With Actual HMI

1. From the "Link" menu choose "Options".

Link Options	BX
Communications Port	
C COM2 C COM3	
© USB © ICP/IP 192 . 168 .	1 , 10
TCP Port 789	Slow Link
Panel Emulation ☐ Send to Emulator ⊆	onfigure
OK Cancel	

2. Verify that the method you communicate to the HMI is chosen. Recommended connection is USB.

3. Click the 🗳 button to download your program to the HMI.

	DI:		0000000
H			
		D01 Off	
8			

With HMI Emulator

1. From the "Link" menu choose "Options".

Communications	Port	
COMI		
COM <u>2</u>		
0 COM <u>3</u>		
COM <u>4</u>		
🖲 USB		
C ICP/IP	192 . 1	68 . 1 . 10
TCP <u>P</u> ort	789	🗖 Slow Link
anel Emulation		
		C-0-1

2. Click "Configure".

nulator Options			<u>e</u>
Serial Port Mappings			
Programming Port:	Disabled		
RS- <u>2</u> 32 Comms Port:	Disabled		
RS- <u>4</u> 85 Comms Port:	Disabled	•	
Primary Ethernet Port:	Intel(R) PRO/	Wireless 3945ABG Network Connection	
View Options		Emulator Memory Image	
Use Second Monitor		Delete Files	
OK Cancel			

3. Change the "Ethernet NIC Mapping" to the Ethernet connection on your computer that you have connected to the BL67.

Programming Port:	Disabled	•	
RS- <u>2</u> 32 Comms Port:	Disabled	•	
RS- <u>4</u> 85 Comms Port:	Disabled	•	
rimary <u>E</u> thernet Port:	Juneary PROAU	JUU PL Network Connection	
iew Options		Emulator Memory Image	
		Delete Files	

- 4. Click "OK" twice.
- 5. Click the 🍠 button to download your program to the HMI Emulator.



Note: Once the Emulator is setup properly, it can be quickly enabled/disabled from the Main Toolbar, as next to the *button* button is the *button*.

5.4.3 Running the HMI Program

6. By turning on a digital input on the BL67, the status will change in the DI string.



7. By pressing the button on the HMI, the Digital Output on the BL67 is turned on.

DI:		00000	001
	D01 On		

Troubleshooting

Pactware

Problem	Issue	Resolution Steps
When starting Pactware, the project pane with "Host PC" is not shown.	The View properties don't always get saved. The project pane must be made visible again.	From the "View" menu, chose "Project" or press "F2" on your keyboard.
When trying to add the Ethernet communication, there are no Turck devices.	The BL DTMs are not installed or not updated in Pactware.	 Verify the BL DTMs are installed by checking "Add/Remove Programs". The DTM's are installed in separate installation package than Pactware.
		 If the DTM's are installed and still not visible, open the Device Catalogue in Pactware and click "Update Device Catalogue".
In Busaddress Management, there are no Ethernet Connections in the drop down list, it just says COM 1	BL Service Serial was chosen instead of BL Service Ethernet.	Delete the BL Service Serial from the Project list on the left. Right click on "Host PC"-> "Add Device" and choose the BL Service Ethernet.
In the Busaddress Management, there are no choices in the drop down list.	No Ethernet Connections available to Pactware.	Verify that there are Ethernet connections enabled on the PC by going to Start-> Settings->Network Connections.
In Busaddress Management, after searching for devices there are no choices in the list.	No Ethernet communication to BL67.	Verify communications using Ping commands. Commonly these issues are wiring or fireware related.

Red Lion HMI and Crimson

Problem	Issue	Resolution Steps
When downloading the HMI project, it errors saying "No acknowledge from target device."	No communication between the PC and the HMI.	From the "Link" menu, choose "Options". Verify the method of communication, recommended is USB.
Once the project was downloaded to the HMI, no data was displayed.	No Communication between HMI and BL67.	 Verify PC can ping both HMI and BL67.
The DI data was grey and displayed ""		 Verify Ethernet settings on HMI that it is enable and given and IP address.
		 Verify that the Modbus settings are set up properly.
		 Make sure the BL67 in the HMI software is setup with a different IP address than the HMI and PC.