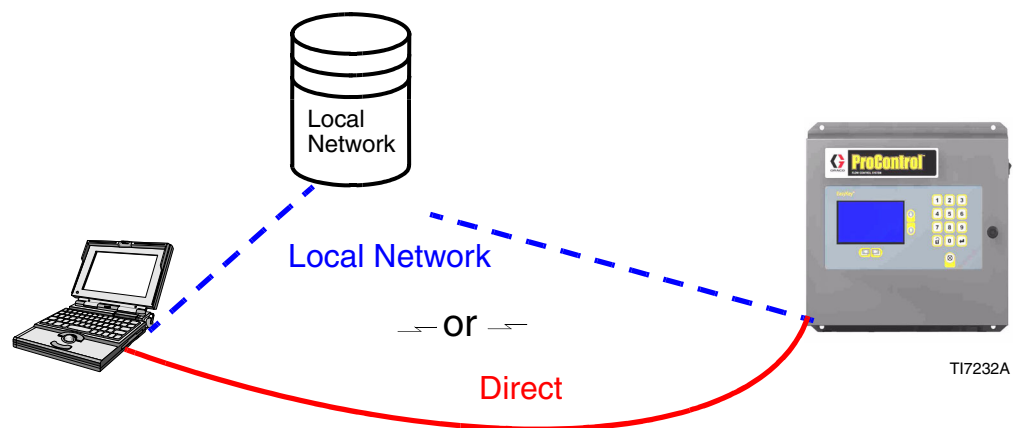


ProMix Auto™ & ProControl™ Network Communications

311191 rev.A

For use with ProMix Auto and ProControl proportioners.



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Warnings

The following general warnings are for the setup, use, grounding, maintenance, and repair of this equipment. Additional, more specific warnings may be found throughout the body of this manual where applicable. *Symbols appearing in the body of the manual refer to these general warnings. When these symbols appear throughout the manual, refer back to these pages for a description of the specific hazard.*

 WARNING	
	EQUIPMENT MISUSE HAZARD Misuse can cause death or serious injury. - Do not operate the unit when fatigued or under the influence of drugs or alcohol. - Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. - Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer. - Check equipment daily. Repair or replace worn or damaged parts immediately with genuine Graco replacement parts only. - Do not alter or modify equipment. - Use equipment only for its intended purpose. Call your Graco distributor for information. - Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. - Do not kink or over bend hoses or use hoses to pull equipment. - Keep children and animals away from work area. - Comply with all applicable safety regulations.
 	ELECTRIC SHOCK HAZARD Improper grounding, setup, or usage of the system can cause electric shock. - Turn off and disconnect power at main switch before disconnecting any cables and before servicing equipment. - Connect only to grounded power source. - All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

This manual (311191) is available in the following languages:

Manual	Language	Manual	Language
311191	English	311277	Chinese
311273	French	311278	Korean
311274	Spanish	311297	Italian
311318	German	311298	Dutch
311276	Japanese		

ProMix Network Interfaces

Web and Modbus Interface

Web Interface - allows users to connect, view, and change the ProMix setup, log, and error files. It does not display run data.

Modbus/TCP - enables process equipment to read variables while operating, as well as control the machine and change setup. It does not provide access to job and error logs.

Use the ProMix Software to:

- Update software
- View
 - software versions
 - material usage report
- Upload
 - setup values
 - a custom language to view on screen
- Download
 - setup values
 - job and alarm logs
- Clear
 - job and alarm logs
 - material usage report
- Reset
 - factory defaults
 - password



If Java Error appears when running the program for the first time, you must download Java RTE (Run Time Environment) for the program to operate correctly. Follow the screen link to Java version 1.4.2.09 or newer. Or enter <http://java.sun.com/j2se/1.4.2/download.html> and select **Download J2SE JRE**. The file is approximately 15 MB.

✓	If the Graco program will not start, check the following.
	Is the ProMix power on?
	Are the cables fully seated in both the PC and ProMix ports?
	• Is the LED on the EasyKey illuminated? • Is the LED on the ethernet jack illuminated? Are the LEDs on the back of the Easy Key illuminated? The bottom left LED should be constantly illuminated showing a network connection. The bottom right LED should illuminate when network traffic is occurring. If there are no LEDs illuminated check for loose connections or a loose board.
	To isolate the problem, try communicating with a different: • PC • ProMix system if available
	Check Local Network Connection . See page 5.

ProMix Web Interface

There are two possible ways to connect a PC to the Pro-Mix Auto or ProControl.

- **Local Network Connection** (most common). Patch cable from the local network plugs into the ProMix Web Interface connection. See FIG. 1 and page 5.
- **Direct Connection** to the ProMix Auto or ProControl. Crossover cable from the PC plugs into the Pro-Mix Web Interface connection. (A crossover cable is provided with all systems.) See FIG. 1 and page 8.

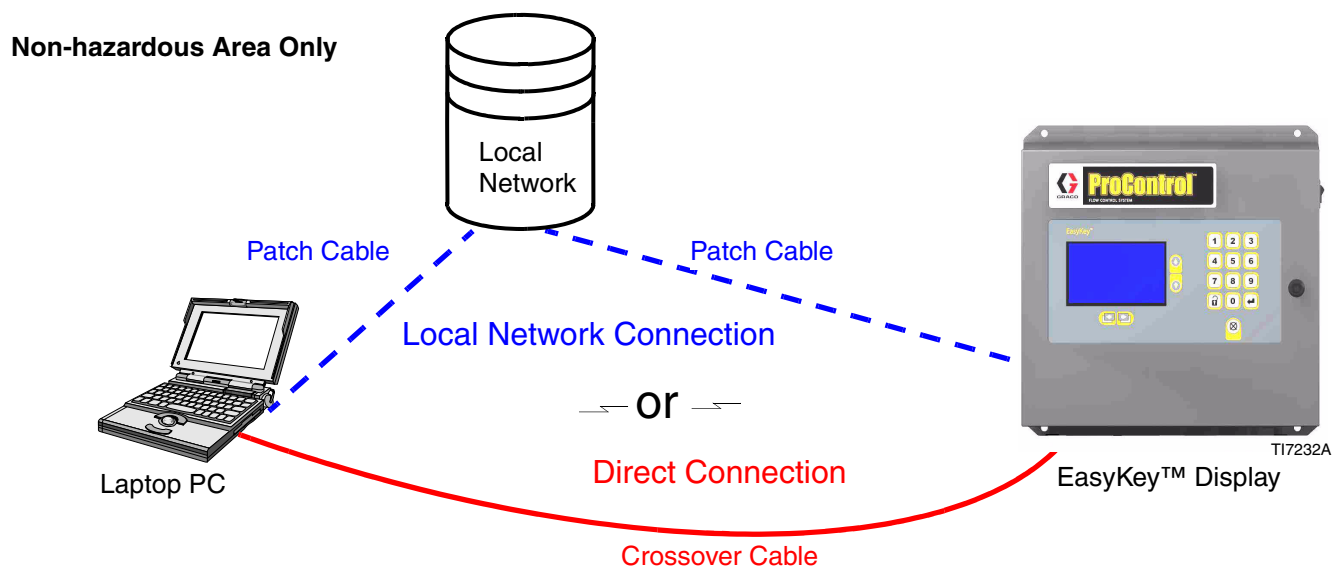


FIG. 1 Network Selection

Local Network Connection

Hardware and Software Configuration

Hardware

Patch cables are used to connect each ProMix unit to the local network and to the ProMix Web connection (A) on the EasyKey panel. See FIG. 2.

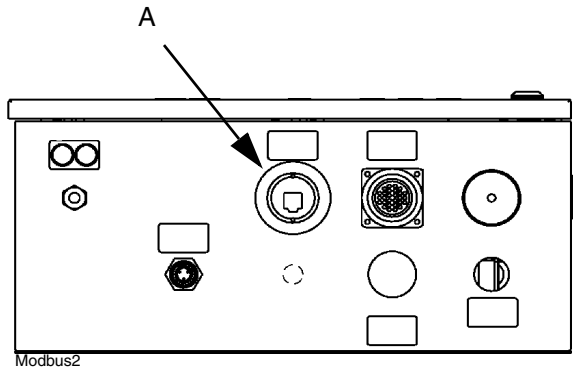


FIG. 2 EasyKey Web Connection

Microsoft Browser Configuration

1. Establish a connection/address to the local network.
 - a. Open the PC control panel.
 - b. Select Network Connections.
 - c. Double click on the Lan Port to configure.
 - d. Select Properties.
 - e. Select Internet Protocol (TCP/IP).
 - f. Select Properties.
 - g. Select the appropriate Internet connection and key in address 192.168.0.3 Multiple addresses

can be used depending on the number of devices connected (3 - 250). For example:
 192.168.0.3 192.168.0.4 192.168.0.5

2. The ProMix Easy Key software requires Sun java to operate. Open your web browser options and select Java (Sun) and deselect the Microsoft VM selection. See FIG. 3. If the Sun Java option is not available follow the **Software Operation** procedure and load the Sun Java program when the appropriate screen and link appear.



Browser must be closed and restarted for change to be effective.

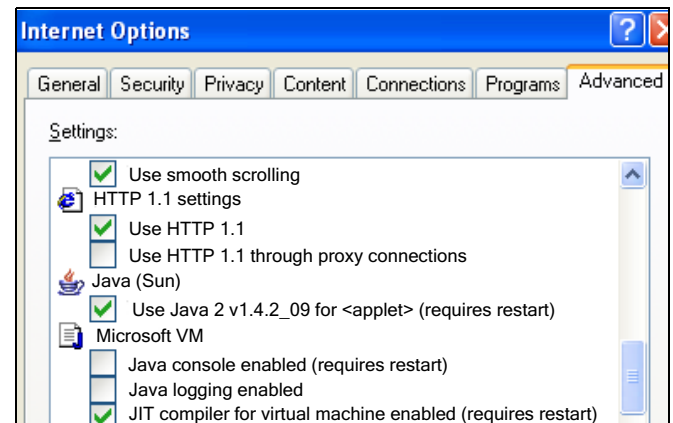


FIG. 3 Java Internet Options



It may be necessary to change the Java selection from Sun to Microsoft for other software applications to run correctly on your PC.

If you cannot make these changes contact your I.S. department and request they change your computer access rights. **You must have administrative rights to change the settings.**

Software Operation

1. Open Microsoft Internet Explorer.
2. In the address area type `http://192.168.0.1`
3. Click Enter.
4. Select yes when security screen appears.
5. Main software screen appears. See FIG. 4.
 - If “Cannot Read Firmware” appears check for loose hardware connections.
 - If “Java script needs to be loaded” appears follow the screen link to install this freeware.

Version 2.00.009	
Setup	Reports
Download setup values	Display material usage report
Restore setup values	Clear material usage report
Display setup values	
Download custom language	Download job log
Restore custom language	Download error log
End current job	Display job log
	Display error log
Software Resets	
Install EasyKey™ software	
Reset settings	Clear job log
Reset password	Clear error log

FIG. 4 Main Software Screen

Web Navigation Screens

From the main screen (see FIG. 4) the operator can select Setup, Reports, or Software Resets.

Setup

Download setup values - saves the ProMix configuration to the PC. This file can be opened and edited using Microsoft Excel, or used to set up multiple systems.

Restore setup values - allows files to be uploaded and restored to the ProMix.

Display setup values - indicates what values are currently being used for the system. Allows the operator to verify that the right values are being used. See FIG. 5.

Data for Display setup values	
TargetRatio0	10
TargetRatio1	10
TargetRatio2	10
TargetRatio3	10
TargetRatio4	10
TargetRatio5	10
TargetRatio6	10
TargetRatio7	10

FIG. 5 Display Set up

Download custom language - saves the current system language to the PC. This file is opened and a custom language added to the B column of the Excel file. See FIG. 6.



Custom languages are limited to Ascii and Ascii extended characters and a maximum of 32 characters. Save the Excel file as a tab delineated file for uploading purposes.

Restore custom language - allows the custom language file to be uploaded to the ProMix.

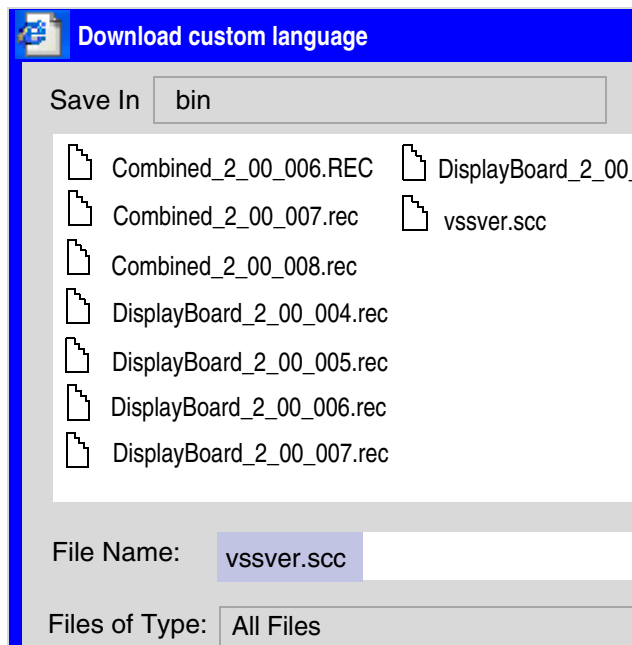


FIG. 6 Download Custom Language

End current job - ends a job and adds material to usage report.

Software Resets

Install EasyKey software - downloads the Graco provided software to the PC (approximately 5 minutes). Once complete the control panel will be reprogrammed from the EasyKey.

Reset settings - places system back to factory default mode.

Reset password - clears password if lost or forgotten.

Advanced Configuration

To change IP settings, type in 192.168.0.1\config.html. Or use the freeware configuration program available from www.lantronix.com/device-networking/utilities-tools/device-installer.html.

Reports

Display material usage report - shows the material sprayed from the ProMix. See FIG. 7.

Data for Display material usage report			
Material Usage			
Start Time	09-22-2005	16:33:57	
End Time	09-23-2005	10:22:15	
Recipe	A (cc)	B (cc)	
1	0	0	
2	0	0	
3	0	0	

FIG. 7 Display Material Usage report

Clear material usage report - deletes the material usage from the display.

Download job log - downloads the job log to the PC.

Download error log - downloads the error log to the PC.

Display jog log - displays the job number, date, time, recipe, ratio, target, volumes, grand totals, and any errors that occurred during the job. See FIG. 8.

Data for Display job log						
Job	Date	Time	Recipe	Ratio	Target	Vol A
001	23-Sep-2005	10:21:16	1	0.00	1.0	0
002	23-Sep-2005	10:21:19	1	0.00	1.0	0
003	23-Sep-2005	10:21:20	1	0.00	1.0	0
004	23-Sep-2005	10:21:21	1	0.00	1.0	0
005	23-Sep-2005	10:21:21	1	0.00	1.0	0

FIG. 8 Display Job Log

Display error log - displays the number of alarms, date, time, recipe and what the error was. See FIG. 9.

Data for display error log					
Alarm	Date	Time	Recipe	Error	
001	23-Sep-2005	10:16:06	0	E1	Communication Error
002	23-Sep-2005	10:14:44	32	E17	Power On
003	23-Sep-2005	10:14:44	32	E18	Factory Defaults Restored

FIG. 9 Display Error Log

Clear job log - deletes the jobs from the display.

Clear error log - deletes the errors from the display.

Modbus/TCP Kit Installation

Graco Kit 15G634 is required for this connection.



Communication delays between the ProMix and Robot can be adjusted. Call Graco Customer Service for instructions.



Do not operate ProMix Auto or ProControl with equipment enclosure doors/covers open. Disconnect power source before servicing or electrically wiring. See "Warnings" on page 2.

Kit Installation

1. Turn ProMix Auto or ProControl power off and disconnect power source.
2. Open the EasyKey™ enclosure with its key.
3. Knock out the prepared hole (B) from the bottom of the EasyKey enclosure. See FIG. 10.
4. Install bulkhead ethernet connector (2) in bottom of enclosure. See FIG. 11.
5. Install DIN rail (4) using 2 screws (7).
6. Install DIN rail end blocks (6) to prevent power supply from moving.

7. Install the Modbus/TCP converter (1).

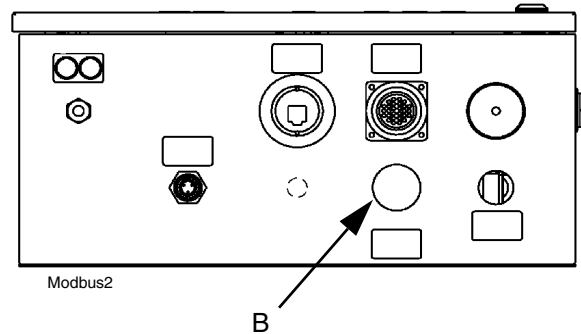


FIG. 10 EasyKey Modbus/TCP Connection

Cable Connections

1. Remove the power cable from J5 (display) to J4 (power supply). See FIG. 11 and "EasyKey Modbus / TCP Wiring Diagram" on page 19.



(FIG. 11 shows a completed Modbus/TCP Kit Installation).

2. Connect the 24-volt power supply with wire modbus/TCP harness (5). Harness replaces existing power wiring to display board. Connect the other end to the converter. See "EasyKey Modbus / TCP Wiring Diagram" on page 19.
3. Install second part of harness to J11 on display board to complete communications circuit. Connect loose end to the top of the converter module. See "EasyKey Modbus / TCP Wiring Diagram" on page 19.

4. Connect green ground wire from the converter to the ground bus bar (7).
5. Install cable modular RJ45 cable (3) between converter and bulkhead. **Be sure to plug cable into correct plug on converter module. See location in Fig. 11.**
6. Close and lock the EasyKey door.



Make sure the red switch on the front is set to RS-485.

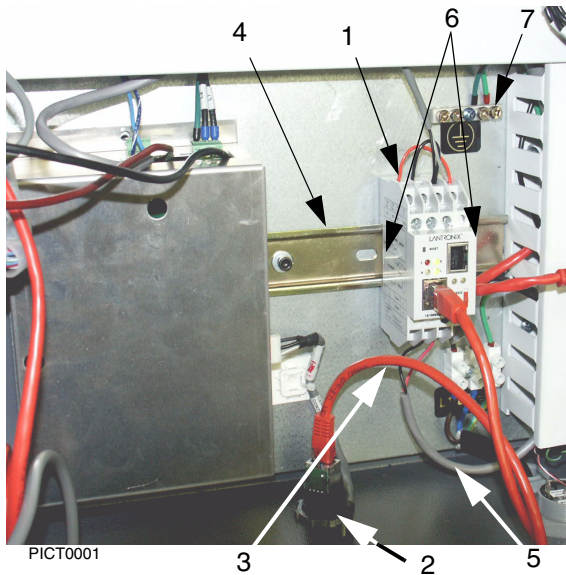


FIG. 11 Cable Connections

Changing Network Configuration

1. Connect PC to ethernet connection on EasyKey with the crossover cable.
2. Connect network to PC with DeviceInstaller.
3. Run DeviceInstaller program.



A freeware configuration program is available from www.lantronix.com/device-networking/utilities-tools/device-installer.html

4. Change IP Address from Default setting 192.168.02
 - a. Run DeviceInstaller
 - b. Click "Search"
 - c. Select device
 - d. Click "Assign IP"

Select and assign specific IP address.

- i. Input address
- ii. Enter subnet mask 255.255.255.0
- iii. Click "Assign" (unit is programmed and will now reboot)
- iv. Click "Finish"
- v. Close/Exit DeviceInstaller



Alternate method via telnet and port 9999.

Serial Port Setup



Kit is pre-programmed with these settings.

- Modbus Slave
- RTU format
- RS-485, 2-wire
- 57,600 baud, 8-bit, no parity, 1-stop bit.

ProMix Auto and ProControl Modbus/TCP Variable Map

Run Variables

Address	Variable Name	Size	Min.	Max.	Notes	Read Only
40003	FlowRate	16 bits	0	5000	Value is CC/min (0-1200)	Y
40004	ActualRatio	16 bits	0	9999	10 = 1.0 ratio with decimal	Y
40005	ActiveRecipe	16 bits	0	60	Recipe Number	Y
40006	ActiveFault	32 bits	0	0xFFFF_FFFF	32-bit, 1-bit per Alarm - see detailed table	
40008	PotlifeRemaining	16 bits	0	9999	Time in minutes	Y
40009	JobComplete	16 bits	1	4	JOBCOMPLETE=1, JOBPURGE=2, JOBCC=3, JOBCCDONE=4	Y
40010	JobTotal0	32 bits	0	799,999,999	Total for Meter A in CCs	Y
40012	JobTotal1	32 bits	0	799,999,999	Total for Meter B in CCs	Y
40014	JobTotal2	32 bits	0	799,999,999	Total for Flow Control Only Inline Meter in CCs	Y
40016	GrandTotal	32 bits	0	799,999,999	Grand Total in Liters	Y
40018	ControlVer	32 bits	0	0xFFFF_FFFF	Software Version for fluid plate control board	Y
40020	RobotDigitalIn	16 bits	0	0xFFFF	1-bit for each input, Set/clear for actions - next detailed table	
40021	RobotDigitalOut	16 bits	0	0xFFFF	1-bit for each input, Set/clear for actions - next detailed table	Y
40022	Component	16 bits	0	2	Active Component (shown on run screen)	Y
40023	SetupOpen	16 bits	0	1	1 if in setup screens -> 0 Run Screens	Y
40026	ccNewRecipe	16 bits	0	60	New recipe when RobotDigitalIn recipe bits are changed	Y
40027	Opmode	16 bits	0	99	0=MIX 1=PURGE 2=STANDBY 3=COLOR-CHANGE 4=CC_MIX 5=CC_PURGE 6=METER-CAL 7=FLOWCAL 8=AUTODUMP	
40029	DesFlow	16 bits	0	9999	Flow Command Input (Analog)	

Setup Variables

Address	Variable Name	Size	Min.	Max.	Notes	Read Only
41002	TargetRatio0	16 bits	0	300	300 = 30.0 with decimal	
41062	TargetRatio60	16 bits	0	300		
41063	Tolerance0	16 bits	1	99	Percentage 1-99%	
41123	Tolerance60	16 bits	1	99		
41124	PotlifeTime0	16 bits	0	999	Minutes	
41184	PotlifeTime60	16 bits	0	999		
41185	PurgeTime0	16 bits	0	99	Seconds	
41245	PurgeTime60	16 bits	0	99		
41246	FillTime0	16 bits	0	99	Seconds	
41306	FillTime60	16 bits	0	99		
41307	SolventFillTime	16 bits	0	999	Seconds	
41368	Color0	16 bits	1	30	Color Valve for Recipe 0	
41428	Color60	16 bits	1	30	Color Valve for Recipe 60	
41429	Catalyst0	16 bits	1	30	Catalyst Valve for Recipe 0	
41489	Catalyst60	16 bits	1	30	Catalyst Valve for Recipe 60	
41490	KFact0	16 bits	1	999	K-factor for Meter A	
41491	KFact1	16 bits	1	999	K-factor for Meter B	
41492	KFact2	16 bits	1	999	K-factor for Flow Control Only inline meter	
41493	CalVolume0	16 bits	0	999	Calibration Volume Entered on screen for Meter A	Y

41494	CalVolume1	16 bits	0	999	Calibration Volume Entered on screen for Meter B	Y
41495	CalVolume2	16 bits	0	999	Calibration Volume Entered on screen for inline Meter	Y
41496	Calibration	16 bits	0	8	Used during calibration steps and drop-down window 0=Abort, 1=Start_A, 2=Start_B, 3=Start_FC, 4=Active, 5=Complete, 6=Purge, 7=Cal_Start, 8=Cal_Complete	Y
41497	Language	16 bits	0	9	0=English, 1=Spanish, 2=French, 3=German, 4=Italian, 5=Dutch, 6=Japanese, 7=Chinese, 8=Korean, 9=Custom	
41498	DisplayUnits	16 bits	0	1	0=Metric (cc/L), 1=US (oz/Gal)	
41499	Kp	16 bits	0	9999	Proportional Gain	
41500	Ki	16 bits	0	9999	Integral Gain	
41501	PotlifeVolume	16 bits	0	999	CCs	
41502	AirChopTime	16 bits	0	999	Seconds	
41503	SolventChopTime	16 bits	0	999	Seconds	
41504	ColorDumpTime	16 bits	0	999	Seconds	
41505	ColorFillTime	16 bits	0	999	Seconds	
41506	Password	32 bits	0	9999	1=Lock setup screens on display	
41508	DoseSize	16 bits	0	3	0=15cc, 1=25cc, 2=50cc	
41509	StationNum	16 bits	1	245	Modbus Address for slave port	
41510	FlowControlMeter	16 bits	0	1	0=Flow Single Meter, 1=Flow with Proportioning	Y
41511	FlowControl	16 bits	0	2	0=Prop Only, 1=Flow Only, 2=Prop+Flow Control	
41514	FlowTolerance	16 bits	0	50	0-50%	
41515	FlowSetpoint	16 bits	0	1200	Manual Scaled Flow Command Signal	Y
41516	FlowSetpoint-Source	16 bits	0	2	0=Analog, 1=Network, 2=Manual	
41517	ThirdFlushValve	16 bits	0	1	0=OFF, 1=ON	
41526	Command-FullScale	16 bits	0	2	0 = 0-300, 1 = 0-600, 2 = 0-1200	
41528	ThirdFlushFirst-PurgeTime	16 bits	0	999	Seconds	
41529	ColorBoards			0xFFFF	0x0000=0 catalyst boards and 0 color boards	
					0x0010=1 catalyst boards and 0 color boards	
					0x0001=0 catalyst boards and 1 color boards	
					0x0011=1 catalyst boards and 1 color boards	
					0x0003=0 catalyst boards and 2 color boards	
					0x0013=1 catalyst boards and 2 color boards	
					0x0007=0 catalyst boards and 3 color boards	
					0x0017=1 catalyst boards and 3 color boards	
					0x000F=0 catalyst boards and 4 color boards	

Miscellaneous Variables

Address	Variable Name	Size	Min.	Max.	Notes	Read Only
42003	Month	16 bits	1	12		Y
42004	Day	16 bits	1	31		Y
42005	Year	16 bits	2003	2999		Y
42006	Hour	16 bits	0	23		Y
42007	Minute	16 bits	0	59		Y
42008	Second	16 bits	0	59		Y
42009	ScreenTimeout	16 bits	0	99	Minutes - 0 is disabled	
42025	JobAlarm	16 bits	0	65535	Each bit is set if an Alarm occurs any time during this job	Y
42028	DateFormat	16 bits	0	1	dd/mm/year = 1, mm/dd/year = 0	
42029	MatUseStart-Date	32 bits	0	65535	Byte0 = Day, Byte1 = Month, Byte2 = Year	Y
42031	MatUseStart-Time	32 bits	0	65535	Byte0 = Second, Byte1 = Minutes, Byte2 = Hour	Y
42033	TotalA0	32 bits	0	0xFFFF_FFFF	Total for Recipe 0, A material, CCs	Y
42035	TotalA1	32 bits	0	0xFFFF_FFFF		Y
42037	TotalA2	32 bits	0	0xFFFF_FFFF		Y
42039	TotalA3	32 bits	0	0xFFFF_FFFF		Y
42041	TotalA4	32 bits	0	0xFFFF_FFFF		Y
42043	TotalA5	32 bits	0	0xFFFF_FFFF		Y
42045	TotalA6	32 bits	0	0xFFFF_FFFF		Y
42047	TotalA7	32 bits	0	0xFFFF_FFFF		Y
42049	TotalA8	32 bits	0	0xFFFF_FFFF		Y
42051	TotalA9	32 bits	0	0xFFFF_FFFF		Y
42053	TotalA10	32 bits	0	0xFFFF_FFFF		Y
42055	TotalA11	32 bits	0	0xFFFF_FFFF		Y
42057	TotalA12	32 bits	0	0xFFFF_FFFF		Y
42059	TotalA13	32 bits	0	0xFFFF_FFFF		Y
42061	TotalA14	32 bits	0	0xFFFF_FFFF		Y
42063	TotalA15	32 bits	0	0xFFFF_FFFF		Y
42065	TotalA16	32 bits	0	0xFFFF_FFFF		Y
42067	TotalA17	32 bits	0	0xFFFF_FFFF		Y
42069	TotalA18	32 bits	0	0xFFFF_FFFF		Y
42071	TotalA19	32 bits	0	0xFFFF_FFFF		Y
42073	TotalA20	32 bits	0	0xFFFF_FFFF		Y
42075	TotalA21	32 bits	0	0xFFFF_FFFF		Y
42077	TotalA22	32 bits	0	0xFFFF_FFFF		Y
42079	TotalA23	32 bits	0	0xFFFF_FFFF		Y
42081	TotalA24	32 bits	0	0xFFFF_FFFF		Y
42083	TotalA25	32 bits	0	0xFFFF_FFFF		Y
42085	TotalA26	32 bits	0	0xFFFF_FFFF		Y
42087	TotalA27	32 bits	0	0xFFFF_FFFF		Y
42089	TotalA28	32 bits	0	0xFFFF_FFFF		Y
42091	TotalA29	32 bits	0	0xFFFF_FFFF		Y
42093	TotalA30	32 bits	0	0xFFFF_FFFF		Y
42095	TotalA31	32 bits	0	0xFFFF_FFFF		Y
42097	TotalA32	32 bits	0	0xFFFF_FFFF		Y
42099	TotalA33	32 bits	0	0xFFFF_FFFF		Y

42101	TotalA34	32 bits	0	0xFFFF_FFFF		Y
42103	TotalA35	32 bits	0	0xFFFF_FFFF		Y
42105	TotalA36	32 bits	0	0xFFFF_FFFF		Y
42107	TotalA37	32 bits	0	0xFFFF_FFFF		Y
42109	TotalA38	32 bits	0	0xFFFF_FFFF		Y
42111	TotalA39	32 bits	0	0xFFFF_FFFF		Y
42113	TotalA40	32 bits	0	0xFFFF_FFFF		Y
42115	TotalA41	32 bits	0	0xFFFF_FFFF		Y
42117	TotalA42	32 bits	0	0xFFFF_FFFF		Y
42119	TotalA43	32 bits	0	0xFFFF_FFFF		Y
42121	TotalA44	32 bits	0	0xFFFF_FFFF		Y
42123	TotalA45	32 bits	0	0xFFFF_FFFF		Y
42125	TotalA46	32 bits	0	0xFFFF_FFFF		Y
42127	TotalA47	32 bits	0	0xFFFF_FFFF		Y
42129	TotalA48	32 bits	0	0xFFFF_FFFF		Y
42131	TotalA49	32 bits	0	0xFFFF_FFFF		Y
42133	TotalA50	32 bits	0	0xFFFF_FFFF		Y
42135	TotalA51	32 bits	0	0xFFFF_FFFF		Y
42137	TotalA52	32 bits	0	0xFFFF_FFFF		Y
42139	TotalA53	32 bits	0	0xFFFF_FFFF		Y
42141	TotalA54	32 bits	0	0xFFFF_FFFF		Y
42143	TotalA55	32 bits	0	0xFFFF_FFFF		Y
42145	TotalA56	32 bits	0	0xFFFF_FFFF		Y
42147	TotalA57	32 bits	0	0xFFFF_FFFF		Y
42149	TotalA58	32 bits	0	0xFFFF_FFFF		Y
42151	TotalA59	32 bits	0	0xFFFF_FFFF		Y
42153	TotalA60	32 bits	0	0xFFFF_FFFF	Total for Recipe 60, A material, CCs	Y
42155	TotalB0	32 bits	0	0xFFFF_FFFF	Total for Recipe 0, B material, CCs	Y
42157	TotalB1	32 bits	0	0xFFFF_FFFF		Y
42159	TotalB2	32 bits	0	0xFFFF_FFFF		Y
42161	TotalB3	32 bits	0	0xFFFF_FFFF		Y
42163	TotalB4	32 bits	0	0xFFFF_FFFF		Y
42165	TotalB5	32 bits	0	0xFFFF_FFFF		Y
42167	TotalB6	32 bits	0	0xFFFF_FFFF		Y
42169	TotalB7	32 bits	0	0xFFFF_FFFF		Y
42171	TotalB8	32 bits	0	0xFFFF_FFFF		Y
42173	TotalB9	32 bits	0	0xFFFF_FFFF		Y
42175	TotalB10	32 bits	0	0xFFFF_FFFF		Y
42177	TotalB11	32 bits	0	0xFFFF_FFFF		Y
42179	TotalB12	32 bits	0	0xFFFF_FFFF		Y
42181	TotalB13	32 bits	0	0xFFFF_FFFF		Y
42183	TotalB14	32 bits	0	0xFFFF_FFFF		Y
42185	TotalB15	32 bits	0	0xFFFF_FFFF		Y
42187	TotalB16	32 bits	0	0xFFFF_FFFF		Y
42189	TotalB17	32 bits	0	0xFFFF_FFFF		Y
42191	TotalB18	32 bits	0	0xFFFF_FFFF		Y
42193	TotalB19	32 bits	0	0xFFFF_FFFF		Y
42195	TotalB20	32 bits	0	0xFFFF_FFFF		Y
42197	TotalB21	32 bits	0	0xFFFF_FFFF		Y
42199	TotalB22	32 bits	0	0xFFFF_FFFF		Y
42201	TotalB23	32 bits	0	0xFFFF_FFFF		Y

42203	TotalB24	32 bits	0	0xFFFF_FFFF		Y
42205	TotalB25	32 bits	0	0xFFFF_FFFF		Y
42207	TotalB26	32 bits	0	0xFFFF_FFFF		Y
42209	TotalB27	32 bits	0	0xFFFF_FFFF		Y
42211	TotalB28	32 bits	0	0xFFFF_FFFF		Y
42213	TotalB29	32 bits	0	0xFFFF_FFFF		Y
42215	TotalB30	32 bits	0	0xFFFF_FFFF		Y
42217	TotalB31	32 bits	0	0xFFFF_FFFF		Y
42219	TotalB32	32 bits	0	0xFFFF_FFFF		Y
42221	TotalB33	32 bits	0	0xFFFF_FFFF		Y
42223	TotalB34	32 bits	0	0xFFFF_FFFF		Y
42225	TotalB35	32 bits	0	0xFFFF_FFFF		Y
42227	TotalB36	32 bits	0	0xFFFF_FFFF		Y
42229	TotalB37	32 bits	0	0xFFFF_FFFF		Y
42231	TotalB38	32 bits	0	0xFFFF_FFFF		Y
42233	TotalB39	32 bits	0	0xFFFF_FFFF		Y
42235	TotalB40	32 bits	0	0xFFFF_FFFF		Y
42237	TotalB41	32 bits	0	0xFFFF_FFFF		Y
42239	TotalB42	32 bits	0	0xFFFF_FFFF		Y
42241	TotalB43	32 bits	0	0xFFFF_FFFF		Y
42243	TotalB44	32 bits	0	0xFFFF_FFFF		Y
42245	TotalB45	32 bits	0	0xFFFF_FFFF		Y
42247	TotalB46	32 bits	0	0xFFFF_FFFF		Y
42249	TotalB47	32 bits	0	0xFFFF_FFFF		Y
42251	TotalB48	32 bits	0	0xFFFF_FFFF		Y
42253	TotalB49	32 bits	0	0xFFFF_FFFF		Y
42255	TotalB50	32 bits	0	0xFFFF_FFFF		Y
42257	TotalB51	32 bits	0	0xFFFF_FFFF		Y
42259	TotalB52	32 bits	0	0xFFFF_FFFF		Y
42261	TotalB53	32 bits	0	0xFFFF_FFFF		Y
42263	TotalB54	32 bits	0	0xFFFF_FFFF		Y
42265	TotalB55	32 bits	0	0xFFFF_FFFF		Y
42267	TotalB56	32 bits	0	0xFFFF_FFFF		Y
42269	TotalB57	32 bits	0	0xFFFF_FFFF		Y
42271	TotalB58	32 bits	0	0xFFFF_FFFF		Y
42273	TotalB59	32 bits	0	0xFFFF_FFFF		Y
42275	TotalB60	32 bits	0	0xFFFF_FFFF	Total for Recipe 60, B material, CCs	Y

ProMix Auto Alarms

Bit	Active Fault Binary	Name	Alarm / Warning
0	0000_0000_0000_0001	Communications	Alarm
1	0000_0000_0000_0010	Potlife	Alarm
2	0000_0000_0000_0100	Ratio High	Alarm
3	0000_0000_0000_1000	Ratio Low	Alarm
4	0000_0000_0001_0000	Overdose A	Alarm
5	0000_0000_0010_0000	Overdose B	Alarm
6	0000_0000_0100_0000	Dose Time A	Alarm
7	0000_0000_1000_0000	Dose Time B	Alarm
8	0000_0001_0000_0000	Mix in Setup	Alarm
9	0000_0010_0000_0000	Remote Stop	Alarm
10	0000_0100_0000_0000	Purge Volume	Alarm
11	0000_1000_0000_0000	Color Change Communications	Alarm
12	0001_0000_0000_0000	High Flow Rate	Warning
13	0010_0000_0000_0000	Low Flow Rate	Warning
14	0100_0000_0000_0000	System Idle	Warning

ProMix Auto Digital Inputs

Bit	RobotDigitalIn Binary	Name	Details
0	0000_0000_0000_0001	Mix Start	Set bit active "1" to initiate or start mixing material
1	0000_0000_0000_0010	Purge Start	Set bit active "1" to initiate or start purging material, mix must be inactive
2	0000_0000_0000_0100	Color Change Start	Set bit active "1" to initiate or start color change, both mix and purge must be inactive
8:3	0000_000X_XXXX_X000	Recipe Bits (6)	Set bit to select recipe. See next sheet.
9	0000_0010_0000_0000	Gun Trigger	Set bit active "1" when gun is triggered. Used by software for various actions.
10	0000_0100_0000_0000	Job Complete	Set bit active "1" to complete the current job. Job totals are cleared and added to material usage
11	0000_1000_0000_0000	Remote Stop	Set bit active "1" to stop system and place in standby mode (must clear alarm first)
12	0001_0000_0000_0000	Alarm Reset	Set bit active "1" to clear current alarm.

ProMix Auto Digital Outputs

Bit	RobotDigitalOut Binary	Name	Details
0	0000_0000_0000_0001	Purge_CC_Active	"1" when a purge or color change is in progress
1	0000_0000_0000_0010	Mix_Active	"1" when mix is active
2	0000_0000_0000_0100	Mix_Ready	"1" when color change is complete and ready for mixing
3	0000_0000_0000_1000	Alarm	"1" when an Alarm occurred
4	0000_0000_0001_0000	Warning	"1" when an Warning occurred

ProMix Auto Recipe Bits

Recipe Bits						Number
5	4	3	2	1	0	
0	0	0	0	0	0	0
0	0	0	0	0	1	1
0	0	0	0	1	0	2
0	0	0	0	1	1	3
0	0	0	1	0	0	4
0	0	0	1	0	1	5
0	0	0	1	1	0	6
0	0	0	1	1	1	7
0	0	1	0	0	0	8
0	0	1	0	0	1	9
0	0	1	0	1	0	10
0	0	1	0	1	1	11
0	0	1	1	0	0	12
0	0	1	1	0	1	13
0	0	1	1	1	0	14
0	0	1	1	1	1	15
0	1	0	0	0	0	16
0	1	0	0	0	1	17
0	1	0	0	1	0	18
0	1	0	0	1	1	19
0	1	0	1	0	0	20
0	1	0	1	0	1	21
0	1	0	1	1	0	22
0	1	0	1	1	1	23
0	1	1	0	0	0	24
0	1	1	0	0	1	25
0	1	1	0	1	0	26
0	1	1	0	1	1	27
0	1	1	1	0	0	28
0	1	1	1	0	1	29
0	1	1	1	1	0	30
0	1	1	1	1	1	31
1	0	0	0	0	0	32

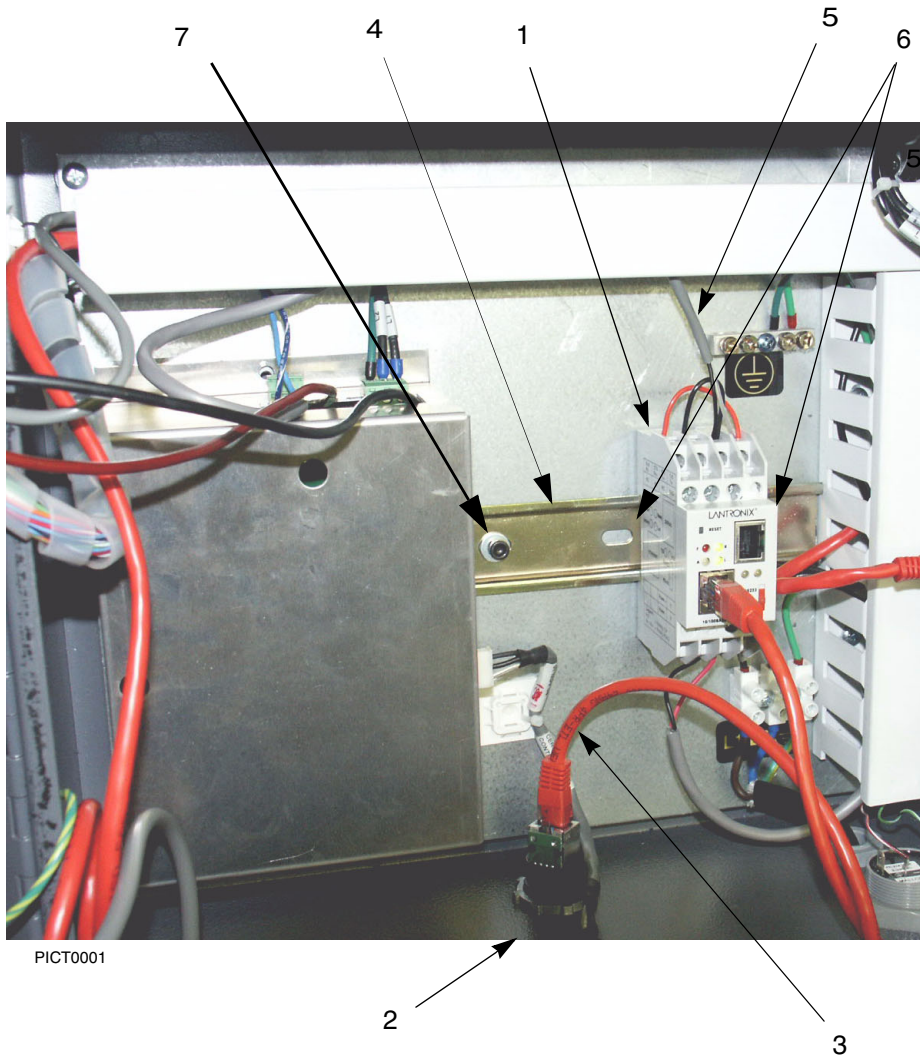
Recipe Bits						Number
5	4	3	2	1	0	
1	0	0	0	0	1	33
1	0	0	0	1	0	34
1	0	0	0	1	1	35
1	0	0	1	0	0	36
1	0	0	1	0	1	37
1	0	0	1	1	0	38
1	0	0	1	1	1	39
1	0	1	0	0	0	40
1	0	1	0	0	1	41
1	0	1	0	1	0	42
1	0	1	0	1	1	43
1	0	1	1	0	0	44
1	0	1	1	0	1	45
1	0	1	1	1	0	46
1	0	1	1	1	1	47
1	1	0	0	0	0	48
1	1	0	0	0	1	49
1	1	0	0	1	0	50
1	1	0	0	1	1	51
1	1	0	1	0	0	52
1	1	0	1	0	1	53
1	1	0	1	1	0	54
1	1	0	1	1	1	55
1	1	1	0	0	0	56
1	1	1	0	0	1	57
1	1	1	0	1	0	58
1	1	1	0	1	1	59
1	1	1	1	0	0	60

ProMix Auto Color Change Steps

Action	Description
Clear MIX bit	Clear mix bit to place system in standby
wait 100ms	
Wait for MIX_ACTIVE off	Wait for system to complete request
wait 100ms	
Set recipe bits	Set the recipe bits for the next color
wait 100ms	
Set Color Change Start	Set color change bit to initiate start of color change
wait 100ms	
Check for Purge/CC Active	Check if status output indicate the change
wait 100ms	
Wait for Mix Ready active	Wait for completion of the color change

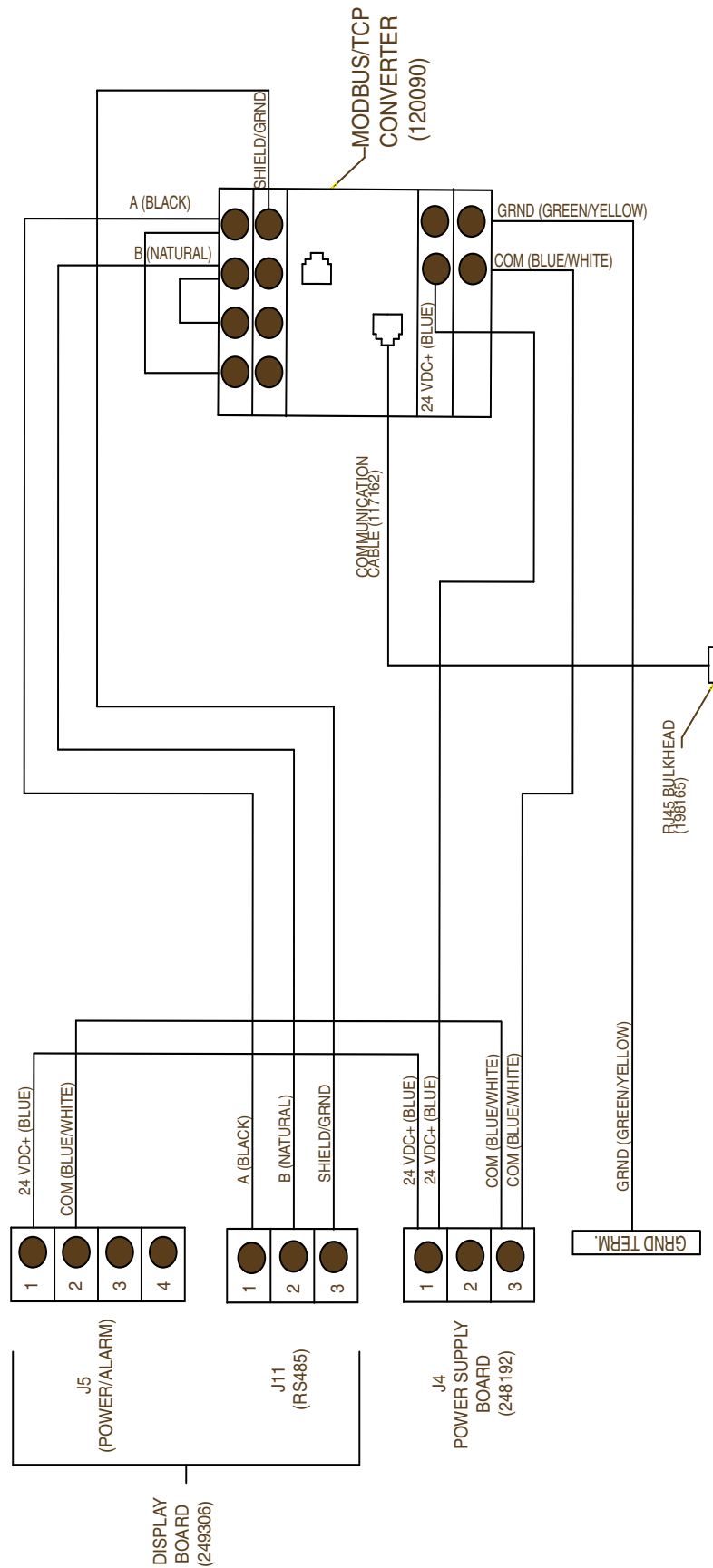
Parts

Kit No. 15G634, Modbus/TCP Convertor



Ref. No.	Part No.	Description	Qty	Ref. No.	Part No.	Description	Qty
1	120090	CONVERTOR, modbus/TCP	1	4	514014	RAIL, mounting 0.5 ft.	1
2	198165	KIT, accessory RJ45 Jack/Bulkhead	1	5	15G635	HARNESS, wire modbus/TCP	1
3	117162	CABLE, modular RJ45, 3ft	1	6	112446	BLOCKS, end	2
				7	110637	SCREWS, DIN rail mounting	2

EasyKey Modbus / TCP Wiring Diagram



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Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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Graco Headquarters: Minneapolis
International Offices: Belgium, China, Japan, Korea

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

www.graco.com

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