



16609166
Edition 1
September 2008

Control Panel Assembly Instructions

QMM

Maintenance Information



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 **Ingersoll Rand**

Control Panel Kit

Description:

The Control Panel kit is provided as a pre-assembled Box that can be configured further based on the requirement of the solution centers.

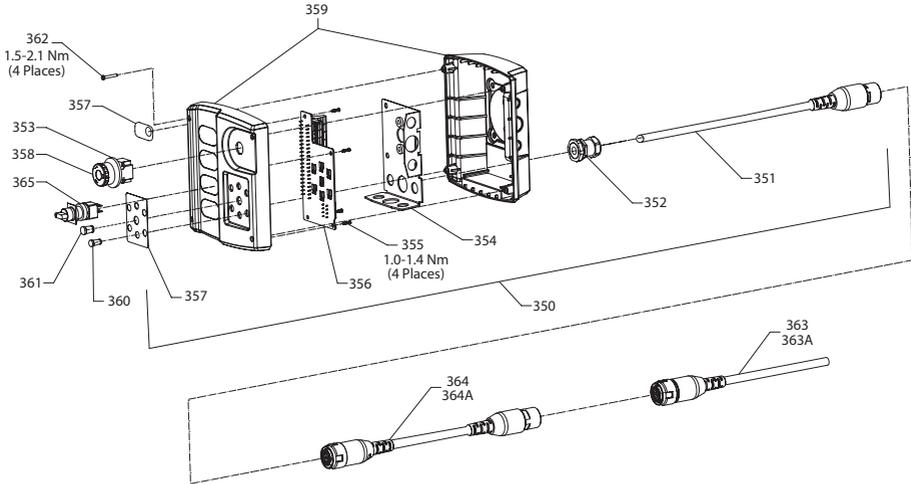


Figure 1

Item	Part Description	Item	Part Description
350	Control Panel Assembly Kit	359	Control Panel Basic Assembly (Includes 360, 361 and 362)
351	Control Panel Whip Cable (1 Meter)	360	Light Pipe-8 mm
352	Cable Gland	361	Light Pipe-10 mm
353	Emergency Switch, Bezel	362	Low Cap Head Screw (M3 x 0.5 x 20)
354	Metal Frame Assembly	363	Control Panel Power Head Cable (2 Meter)
355	Thread Forming Screw (M2.5 x 1.06 x 10)	363A	Control Panel Power Head Cable (12 Meter)
356	Control Panel PCB Assembly	364	Cable Extension Assembly (20 meter)
357	Control Panel Label Kit	364A	Cable Extension Assembly (10 meter)
358	Emergency Switch		

Note: Cable Gland (352), Control Panel Whip (351) and Control Panel Label Kit (357) are supplied along with Light box kit as accessories and not assembled to kit.

Optional Parts List

Item	Part Description	Manufacturer's Part Number	Manufacturer's Part Number
		(IDEC Make)	(TELEMECANIQUE Make)
1	3 Position Selector Switch	LA1S-3C6	XB6 AD235B
2	Push Button Black	AB6M-BK2-B	XB6 AA25B
3	2 Position Selector Switch	LA1S-2C6	XB6 AD225B
4	Buzzer	LA3Z-1X4	----
5	Pilot Light Red	LA1P-1C04-R	XB6 AV4BB
6	Pilot Light Green	LA1P-1C04-G	XB6 AV3BB
7	Key Selector Switch	LA1K-3C6D	XB6 AGH5B

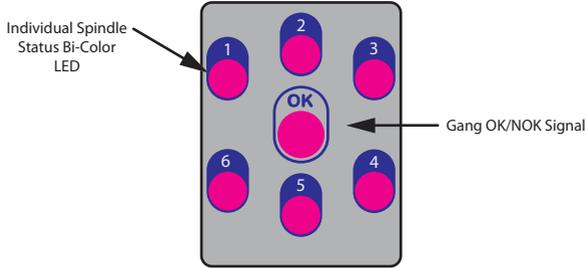
Display Options



Display and Label:

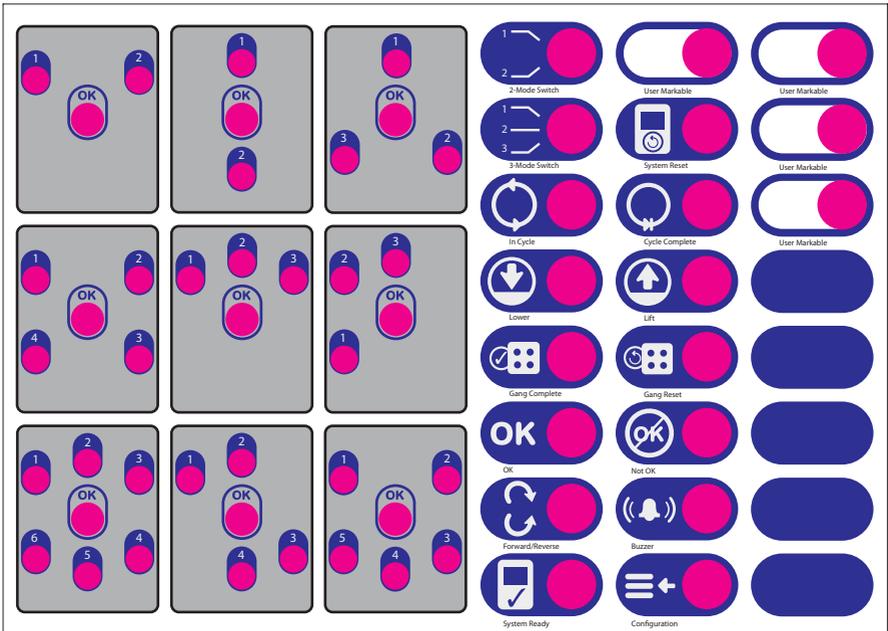
- Depending upon the no. of spindles on power head select suitable label from the label sheet provided (Max 6 spindle).
- The Control panel Basic assembly will come with 6 small Light pipes and 1 Large light pipe. The large light pipe is mandatory but the no. of small light pipes can be selected based on the requirement of the customer.
- Remove the light pipes from the pre-assembled front cover wherever LED display is not required. Follow pattern of label.

Label Selection



Label Sheet:

Label sheet will be provided as peel off cutouts. Solution centers need to select the suitable Labels per the requirement.



Control Panel Assembly Exploded View

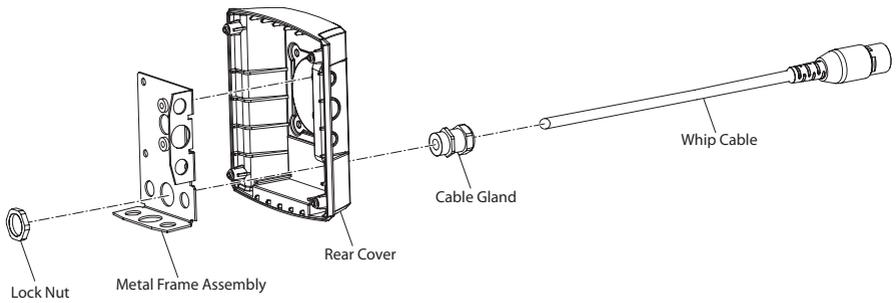


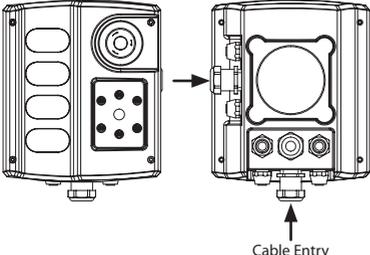
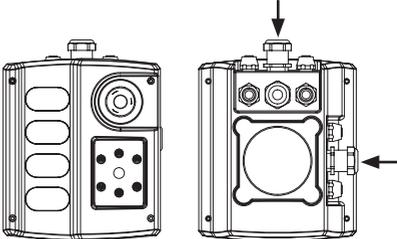
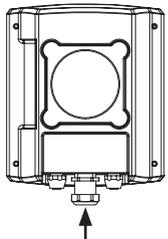
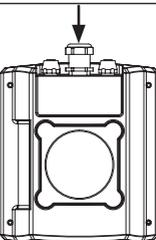
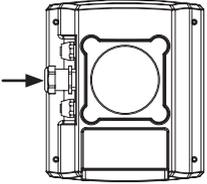
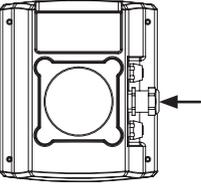
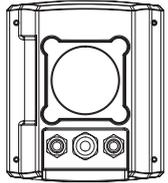
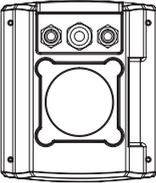
Figure 2

Cable Entry

1. The Solution center should decide cable entry point into Control panel kit. (Refer cable entry options shown in this manual.)
2. There after Disassemble the Light box kit into two halves.
3. Break open the knock out holes in the Rear cover depending upon the cable entry option chosen.
4. Insert the cable gland into the cutout area in the Rear cover. Insert the Whip cable (Direction as shown in Figure 2) into the Cable gland; tighten the Hex nut such that it firmly holds the Whip Cable.
5. After the above assembly, clamp the Metal Frame Assembly, Rear Cover and the Cable Gland by means of Lock nut.

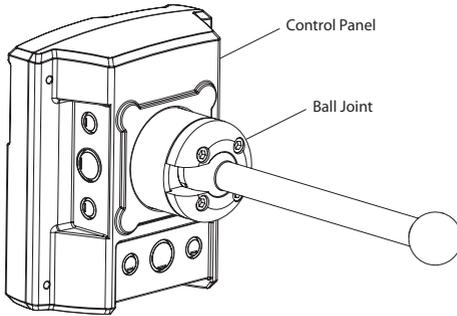
Cable Entry Options

Cable entry into the Control Panel can be selected from any 5 different faces except the front.
Following table illustrates entry options:

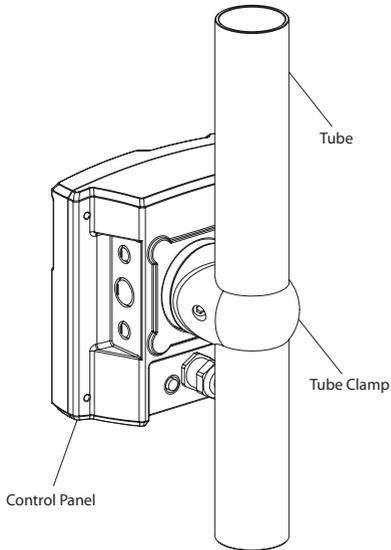
Light Box Configuration I	Light Box Configuration II
 <p style="text-align: center;">Cable Entry</p>	 <p style="text-align: center;">Back Cover Mounted Upside Down w.r.t Configuration I</p>
	
	
	

Control Panel Mounting Options

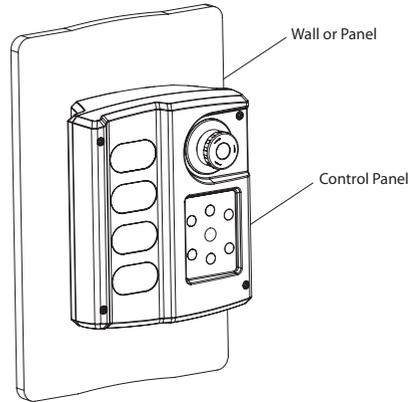
- Control panel mounting can be configurable for various mounting options.
- The solution centers should decide which application suits best and following the assembly process.



Ball Joint Mount: Figure 4



Tube to Flat Mount: Figure 6



Wall/Panel Mount: Figure 5

Mounting Procedure

Ball Joint Mount

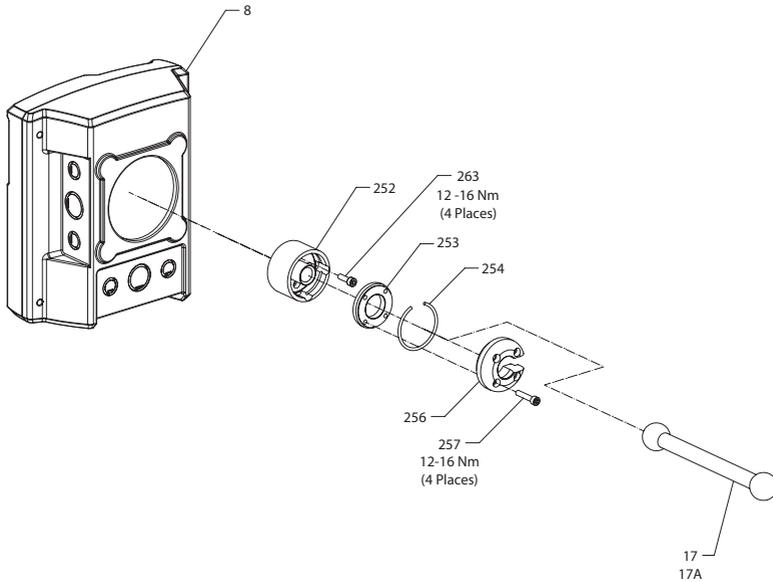


Figure 10

Item	Part Description	Item	Part Description
8	Control Panel	254	Internal Ring Round Wire
17	Ball to Ball Shaft-Short	256	Socket Ring
17A	Ball to Ball Shaft-Long	257	Cap Head Screw (M6 x 1 x 30)
252	Tube End Holder	263	Cap Head Screw (M6 x 1 x 20)
253	Nut Plate		

1. Fasten Tube End Holder (252) to Control Panel (8) with Cap Head Screw (263), (apply serviceable loctite to fasteners).
2. Insert Nut Plate (253) into Tube End Holder (252) with larger diameter entering first.
3. Snap fit Internal Ring Round Wire (254) into Tube End Holder (252) and ensure its positioning into the groove provided.
4. Engage ball end of Ball to Ball Shaft-Short/Long (17/17A) via slot of Socket Ring (256) and align the ball to be in-between curved faces of Socket Ring (256) and Tube End Holder (252).
5. Align Socket Ring (256) to Nut Plate (253). Set the orientation of Ball to Ball Shaft-Short/Long (17/17A) and then clamp Socket Ring (256) to Nut Plate (253) using Cap Head Screw (257).
6. Loosening of Cap Head Screw (257) will allow adjusting the orientation of Ball to Ball Shaft-Short/Long (17/17A). Fastening these back, to the recommended torque value makes, the joint rigid.
7. All surfaces should be dry and lubricant free.

Wall or Panel Mount

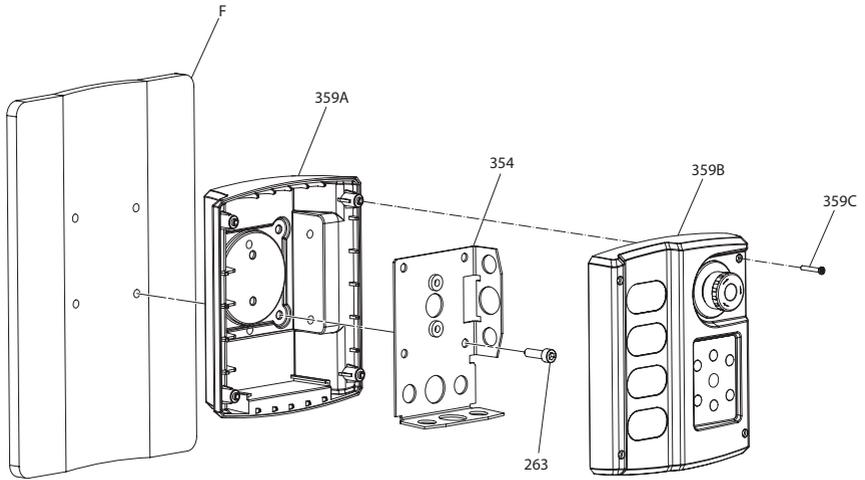


Figure 8

Item	Part Description	Item	Part Description
263	Cap Head Screw (M6 x 1 x 20)	359A, 359B, 359C	Control Panel
354	Metal Frame Assembly	F	Wall or Panel

1. Disassemble the Control panel Kit into (359A), (359B), (359C).
2. Drill holes in back cover of Control Panel (359A) thru 4 corner indents provided inside of Panel (Ø 6.5 mm Drill size).
3. Assemble Control Panel (359A) , Metal Frame Assembly (354) to Wall (F) with Cap Head Screw (263).
4. Now assemble Control Panel (359B) to the above assembly with Low Cap Head Screw (359C).

Plate to Flat Mount

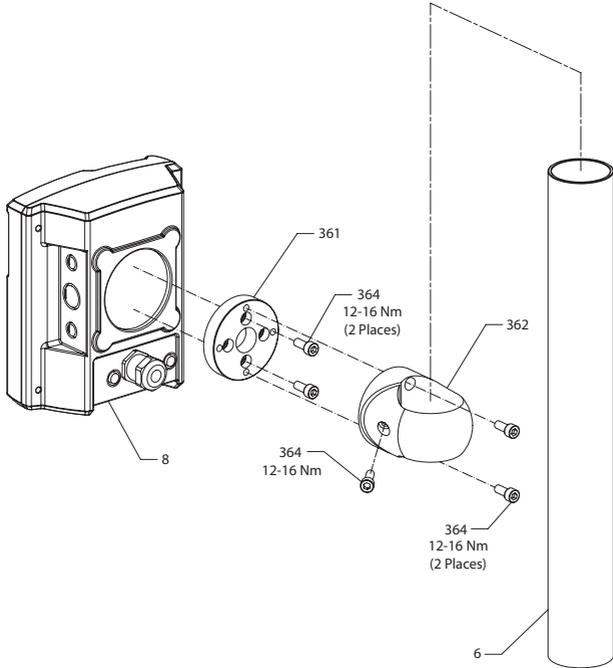


Figure 9

Item	Part Description	Item	Part Description
6	Tube	362	Control Panel Mount Tube Holder
8	Control Panel	364	Cap Head Screw (M6 x 1 x 15)
361	Control Panel Mount Plate		

1. Drill open holes from the indents provided inside rear cover of Control Panel (8).
2. Mount Control Panel Mount Plate (361) on Control Panel using fastener Cap Head Screw (364).
3. Align Control Panel Mount Tube Holder (362) over Control Panel Mount Plate (361) at desired orientation and secure with fastener Cap Head Screw (364).
4. Insert the above assembly over Tube (6).
5. Orient the assembly at desired location over Tube (6) and clamp it with fastener Cap Head Screw (364).

Assembly of Handle Connectors to Control Panel

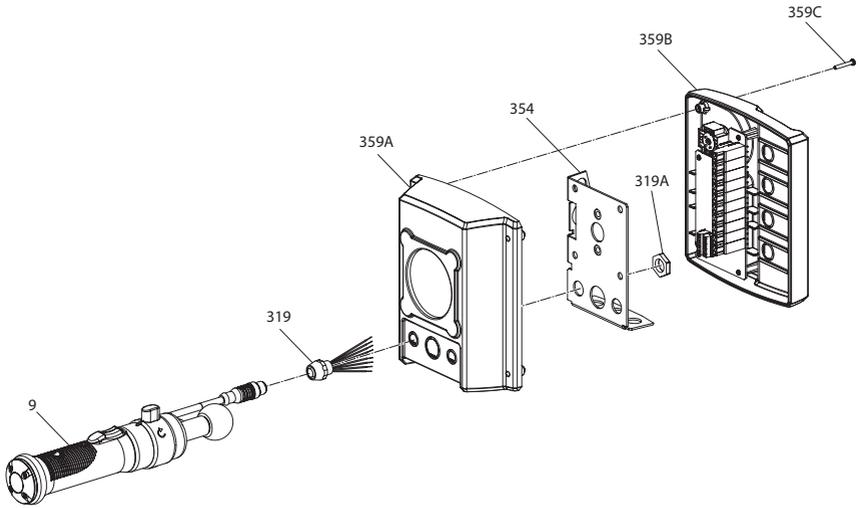


Figure 10

Item	Part Description	Item	Part Description
9	Handle	359A	Control Panel-Rear
319	Connector	359B	Control Panel-Front
319A	Lock Nut	359C	Low Cap Head Screw (M3 x 0.5 x 20)
354	Metal Frame Assembly		

1. Throttle handle comes with an assembly of Handle (9) and Connector (319).
2. Female receptacle is an assembly of Connector (319) and Lock Nut (319A).
3. Separate the nut Lock Nut (319A) from Connector (319).
4. Disassemble the Control Panel Kit into Control Panel-Rear (359A) , Metal Frame Assembly (354), Control Panel-Front (359B) and Low Cap Head Screw (359C).
5. Break open the smaller knock out holes in Control Panel-Rear (359A). (As per desired cable entry options shown in this manual.)
6. Insert Connector (319) into the hole of Control Panel-Rear (359A).
7. Terminate the loose wires of Connector (319) to the terminal blocks of PCB as per the wiring diagram.
8. Assemble Connector (319), Control Panel-Rear (359A), Metal Frame Assembly (354) with Lock Nut (319A). Tighten Lock Nut (319A) with wrench to clamp tightly.
9. Reassemble the Control Panel kit with Low Cap Head Screw (359C).
10. Plug in Handle Cable and Connector (319).

General Connection Layout

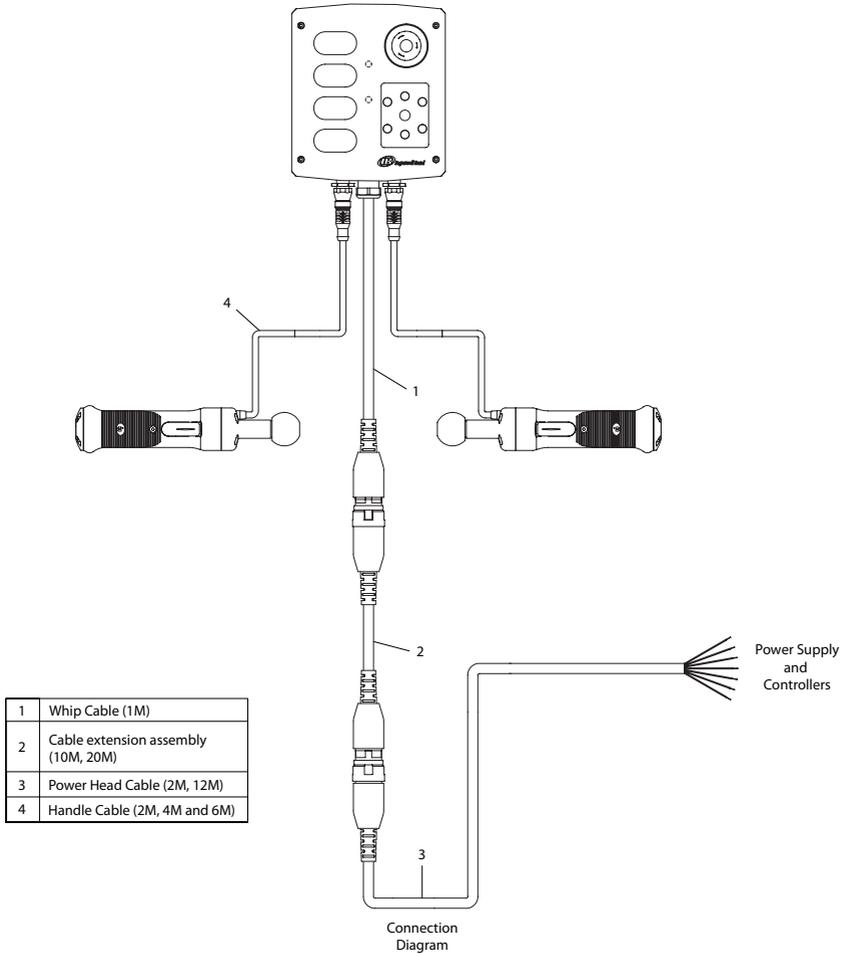


Figure 11

Item	Part Description	Item	Part Description
1	Control Panel Whip Cable	3	Control Panel Power Head Cable
2	Cable Extension Assembly - 10 and 20 Meters	4	Plug - (Turck RSC 8T-*)

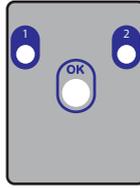
Handle connectors will be provided with a standard length of 2M, 4M and 6M. Solution centers have to cut them to length as per their requirement. The assembly of this is done by inserting the Plug from cable into the Receptacle assembled in Control Panel.

Control Panel Wiring/Connection Diagram**Connector - Cable Identification**

QMMC Pin Out			
Pin 1	Shield	Pin 19	Blue 4
Pin 2	White 1	Pin 20	Blue 3
Pin 3	White 2	Pin 21	Blue 2
Pin 4	Pink 1	Pin 22	Blue 1
Pin 5	Pink 2	Pin 23	Orange
Pin 6	Pink 3	Pin 24	Yellow 2
Pin 7	Pink 4	Pin 25	Yellow 1
Pin 8	Pink 5	Pin 26	Grey 4
Pin 9	Pink 6	Pin 27	Grey 3
Pin 10	Pink 7	Pin 28	Grey 2
Pin 11	Green 1	Pin 29	Grey 1
Pin 12	Green 2	Pin 30	Brown 1
Pin 13	Green 3	Pin 31	Brown 2
Pin 14	Green 4	Pin 32	Red 1
Pin 15	Green 5	Pin 33	Red 2
Pin 16	Green 6	Pin 34	Black 1
Pin 17	Green 7	Pin 35	Black 2
Pin 18	Blue 5	Pin 36	----
		Pin 37	----

Wiring Diagram

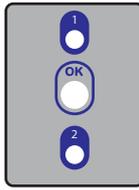
Following spread sheets gives connection diagrams to achieve corresponding LED pattern required from Control Panel display.



2 Position Option A

Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Unused	No Connect							
2	Unused	No Connect							
3	Unused	No Connect							
4	Unused	No Connect							
5	Spindle 2 Pass	Green/2							
6	Spindle 2 Fail	Pink/2							
7	Unused	No Connect							
8	Unused	No Connect							
9	Spindle 1 Pass	Green/1							
10	Spindle 1 Fail	Pink/1							
11	Unused	No Connect							
12	Unused	No Connect							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-Stop	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					
Other Connections									
Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND									
Jumper wire from E-STOP terminal X2 to E-STOP Terminal 4									

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire SHALL have a ring terminal crimped on to connect to the GND Lug



2 Position Option B

Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Spindle 2 Pass	Green/2							
2	Spindle 2 Fail	Pink/2							
3	Unused	No Connect							
4	Unused	No Connect							
5	Unused	No Connect							
6	Unused	No Connect							
7	Spindle 1 Pass	Green/1							
8	Spindle 1 Fail	Pink/1							
9	Unused	No Connect							
10	Unused	No Connect							
11	Unused	No Connect							
12	Unused	No Connect							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections

Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND

Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire SHALL have a ring terminal crimped on to connect to the GND Lug.



3 Position Option A

Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Unused	No Connect							
2	Unused	No Connect							
3	Spindle 2 Pass	Green/2							
4	Spindle 2 Fail	Pink/2							
5	Unused	No Connect							
6	Unused	No Connect							
7	Spindle 1 Pass	Green/1							
8	Spindle 1 Fail	Pink/1							
9	Unused	No Connect							
10	Unused	No Connect							
11	Spindle 3 Pass	Green/3							
12	Spindle 3 Fail	Pink/3							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1								
17	Control 2	Blue/2			X1				
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections

Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND

Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.



3 Position Option B

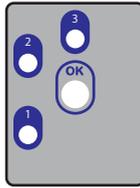
Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Unused	No Connect							
2	Unused	No Connect							
3	Unused	No Connect							
4	Unused	No Connect							
5	Spindle 3 Pass	Green/3							
6	Spindle 3 Fail	Pink/3							
7	Spindle 2 Pass	Green/2							
8	Spindle 2 Fail	Pink/2							
9	Spindle 1 Pass	Green/1							
10	Spindle 1 Fail	Pink/1							
11	Unused	No Connect							
12	Unused	No Connect							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections

Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND

Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.



3 Position Option C

Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Unused	No Connect							
2	Unused	No Connect							
3	Unused	No Connect							
4	Unused	No Connect							
5	Unused	No Connect							
6	Unused	No Connect							
7	Spindle 3 Pass	Green/3							
8	Spindle 3 Fail	Pink/3							
9	Spindle 2 Pass	Green/2							
10	Spindle 2 Fail	Pink/2							
11	Spindle 1 Pass	Green/1							
12	Spindle 1 Fail	Pink/1							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					
Other Connections									
Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND									
Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4									

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.



4 Position Option A

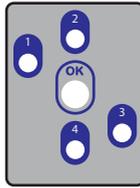
Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Unused	No Connect							
2	Unused	No Connect							
3	Spindle 3 Pass	Green/3							
4	Spindle 3 Fail	Pink/3							
5	Spindle 2 Pass	Green/2							
6	Spindle 2 Fail	Pink/2							
7	Unused	No Connect							
8	Unused	No Connect							
9	Spindle 1 Pass	Green/1							
10	Spindle 1 Fail	Pink/1							
11	Spindle 4 Pass	Green/4							
12	Spindle 4 Fail	Pink/4							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections

Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND

Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.



4 Position Option B

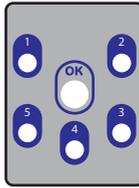
Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Spindle 4 Pass	Green/4							
2	Spindle 4 Fail	Pink/4							
3	Spindle 3 Pass	Green/3							
4	Spindle 3 Fail	Pink/3							
5	Unused	No Connect							
6	Unused	No Connect							
7	Spindle 2 Pass	Green/2							
8	Spindle 2 Fail	Pink/2							
9	Spindle 1 Pass	Green/1							
10	Spindle 1 Fail	Pink/1							
11	Unused	No Connect							
12	Unused	No Connect							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections

Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND

Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.



5 Position Option A

Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Spindle 4 Pass	Green/4							
2	Spindle 4 Fail	Pink/4							
3	Spindle 3 Pass	Green/3							
4	Spindle 3 Fail	Pink/3							
5	Spindle 2 Pass	Green/2							
6	Spindle 2 Fail	Pink/2							
7	Unused	No Connect							
8	Unused	No Connect							
9	Spindle 1 Pass	Green/1							
10	Spindle 1 Fail	Pink/1							
11	Spindle 5 Pass	Green/5							
12	Spindle 5 Fail	Pink/5							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections	
Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND	
Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4	

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.



6 Position

Terminal Block #	Function	Whip Cable Color/Number	Plug 1 Color	Plug 2 Color	Example for Controls				
					Green Light Terminals	Red Light Terminals	Buzzer Terminals	Switches/Buttons Terminals	E-Stop Terminals
1	Spindle 5 Pass	Green/5							
2	Spindle 5 Fail	Pink/5							
3	Spindle 4 Pass	Green/4							
4	Spindle 4 Fail	Pink/4							
5	Spindle 3 Pass	Green/3							
6	Spindle 3 Fail	Pink/3							
7	Spindle 2 Pass	Green/2							
8	Spindle 2 Fail	Pink/2							
9	Spindle 1 Pass	Green/1							
10	Spindle 1 Fail	Pink/1							
11	Spindle 6 Pass	Green/6							
12	Spindle 6 Fail	Pink/6							
13	Master Pass	Green/7							
14	Master Fail	Pink/7							
15	Control 1	Blue/1							
16	Control 1				X1				
17	Control 2	Blue/2							
18	Control 2					X1			
19	Control 3	Blue/3							
20	Control 3						X1		
21	Control 4	Blue/4							
22	Control 4							N/O	
23	Control 5	Blue/5							
24	Control 5							N/C	
25	24V Input Bus	Red/1							
26	GND Input Bus	Black/1							
27	24V Input Bus		Blue	Blue					
28	GND Input Bus		Green	Green					
29	24V Input Bus								
30	GND Input Bus							C	
31	24V Input Bus								2,3
32	GND Input Bus								X1
33	24V Output Bus								
34	GND Output Bus				X2				
35	24V Output Bus								
36	GND Output Bus					X2			
37	24V Output Bus								
38	GND Output Bus						X2		
39	24V Output Bus	Red/2							
40	GND Output Bus	Black/2							
Rev/Down1	Rev/Down1	White/1	White						
Fwd/Up1	Fwd/Up1	Brown/1	Brown						
Trigger1	Trigger1	Yellow/1	Yellow						
Rev/Down2	Rev/Down2	White/2		White					
Fwd/Up2	Fwd/Up2	Brown/2		Brown					
Trigger2	Trigger2	Yellow/2		Yellow					
E-STOP	E-STOP	Orange							1
LED GND	LED GND	See Other Connections							
GND Lug (1)	Earth Ground	Shield Drain Wire	Red	Red					

Other Connections
 Jumper wire from Terminal Block # 40 (GND Output Bus) to Terminal LED GND
 Jumper wire from E-STOP Terminal X2 to E-STOP Terminal 4

Note: Use one of the mounting bolts that pass thru the metal plate inside the Control Panel as the GND Lug. Each Shield wire shall have a ring terminal crimped on to connect to the GND Lug.

Related Documentation

For additional information refer to:

Product Safety Information Manual 16607095.

Product Information Manual 16607228.

Parts Information Manual 16607103.

Manuals can be downloaded from www.irtools.com.

www.irttools.com

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