Installation Instructions for:

ZPCB2252-MML (Master) & ZPCB2252-MSL (Slave)

Functional Description:

The ZPCB2252-MML is the master PCB that interfaces directly to the CIE via the addressable loop interface. The master board takes one address on the CIE and is assigned its address during the auto-learn cycle of the CIE (refer to the CIE manual for more details). This board provides 32 LED outputs which are powered from an external EN54-4 power supply.

The ZPCB2252-MSL is the slave PCB which has no loop interface to the CIE but is directly controlled by the ZPCB2252-MML board. Up to 7 slave boards can be daisy chained to the master board and each slave has 32 LED outputs allowing the number of LED outputs to be expanded up to a maximum of 250 (not all LEDs on the 7th slave are used). The power to these additional LEDs is also from the external power supply but is transferred through the interlinking cable between boards.

Cause and effect programming can be uploaded via the RS232 port to the master board to program how the LEDs will react to command/status information received from the CIE. This allows the LEDs to not only be used to show fire information but also faults, and can be configured to trigger by Zone, Panel, Loop or Address.

These boards are typically used for providing visual indications for fire or fault conditions on a site plan overlay.

Installation Instructions:

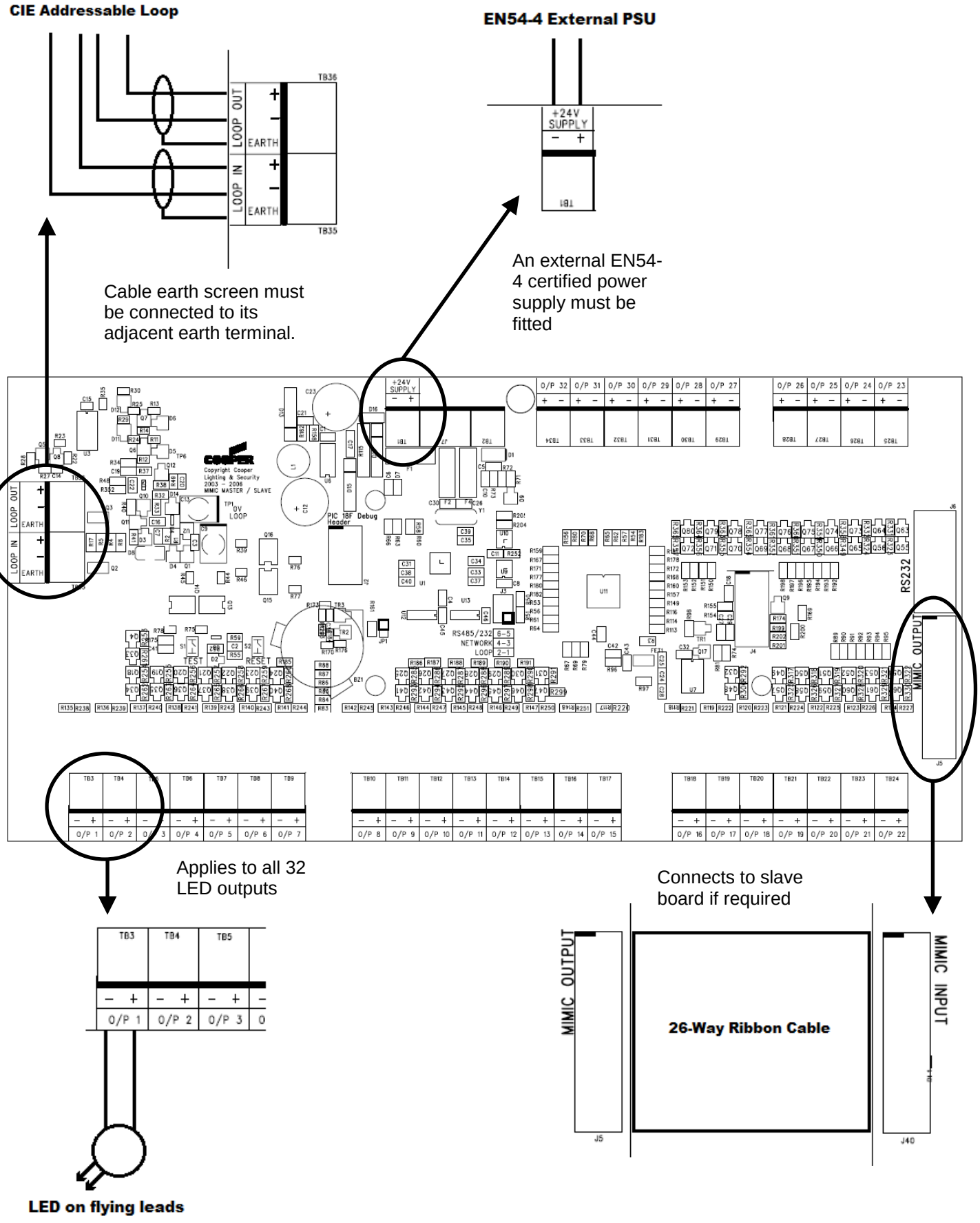
1. Select the appropriate sized enclosure for the number of Master and Slave boards required.
2. Ensure all cable entry points have glands fitted.
3. Mount the enclosure back box to the wall using the designated mounting holes and appropriate screw sizes for the enclosure selected.
4. Mount the PCBs into the enclosure using appropriate mounting points and no bigger than M4 screws (limited by the hole size on the PCBs).
5. Interconnect the Master and slave boards using the appropriate length of 26-way ribbon cable between the MIMIC OUTPUT and the MIMIC INPUT connectors on each board (see wiring diagrams)
6. Wire the CIE loop connections to the master board (see wiring diagrams)
7. Wire the external EN54-4 PSU to the master and slave boards (see wiring diagrams)
8. Wire the LEDs to the required outputs on each board (see wiring diagrams).
9. Fit the enclosure lid as required by the enclosure selected.

Installation Instructions for:

ZPCB2252-MML (Master) & ZPCB2252-MSL (Slave)

Wiring Diagram:

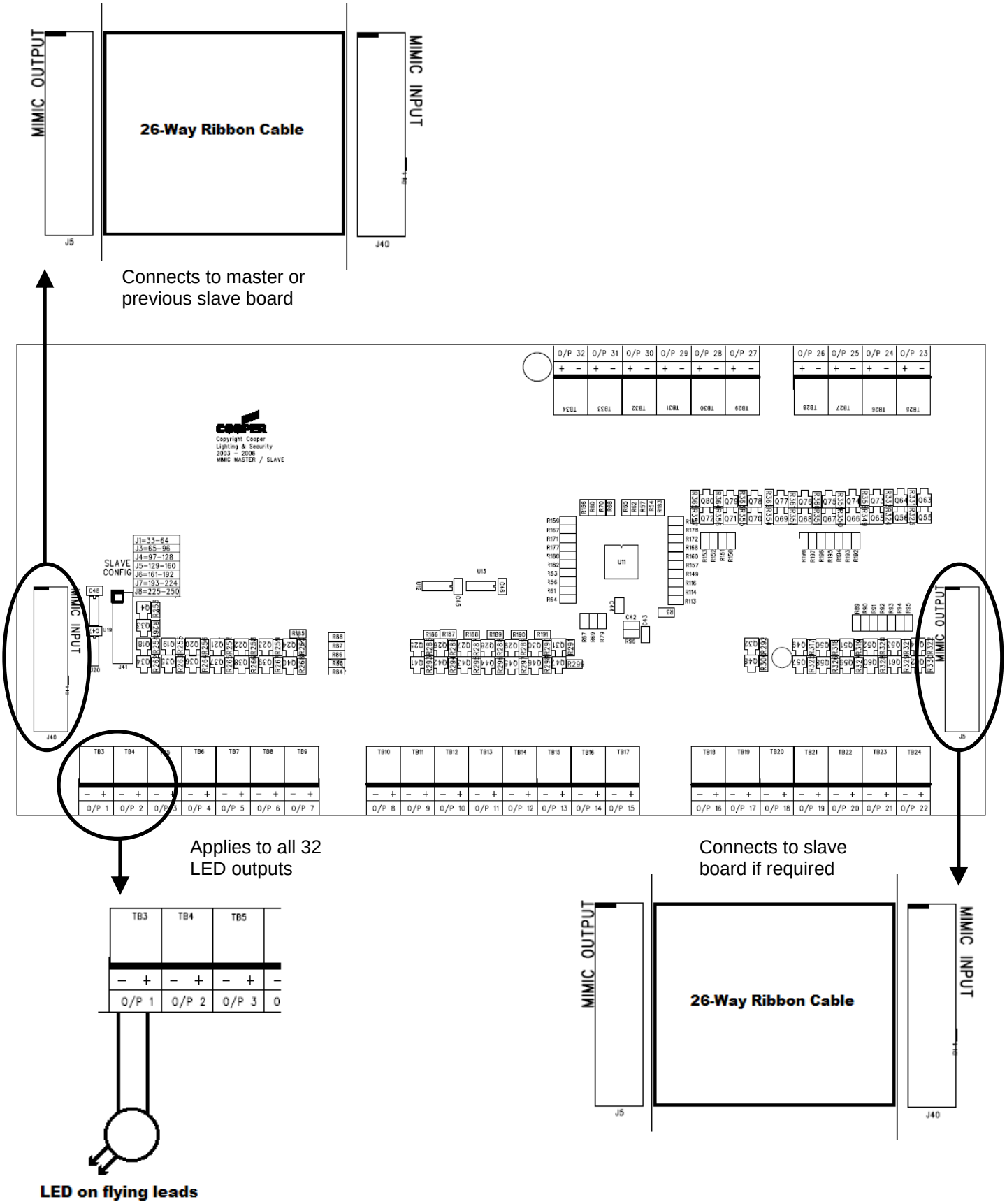
ZPCB2252-MML (Master Board)



Installation Instructions for:

ZPCB2252-MML (Master) & ZPCB2252-MSL (Slave)

ZPCB2252-MSL (Slave Boards)



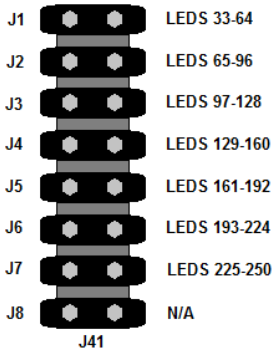
Installation Instructions for:

ZPCB2252-MML (Master) & ZPCB2252-MSL (Slave)

Configuration Instructions:

ZPCB2252-MSL (Slave Boards)

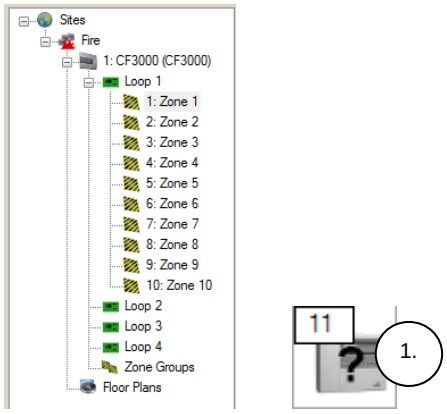
On the Slave boards there is a bank of jumpers (J41 SLAVE CONFIG) that are used to select what bank of LEDs the slave board represents so that the Master board knows that it is present and how to control it. Place a jumper on the required selection (the 8th position is not used). Make sure that these jumpers are set correctly otherwise it will result in incorrect activation of the LED outputs.



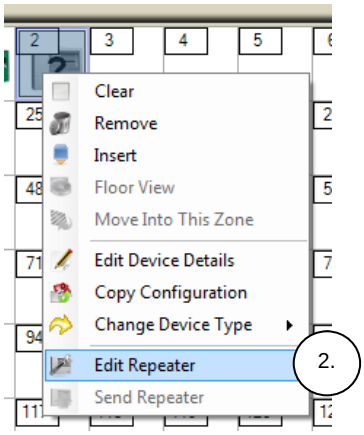
ZPCB2252-MML (Master Board)

To configure the rules for the outputs controlled by the Master board you must use the cause and effect file generated for the CIE. This file will contain all the information necessary for creating the cause and effect rules. Use the following guides to setting up and configuring a Master Board.

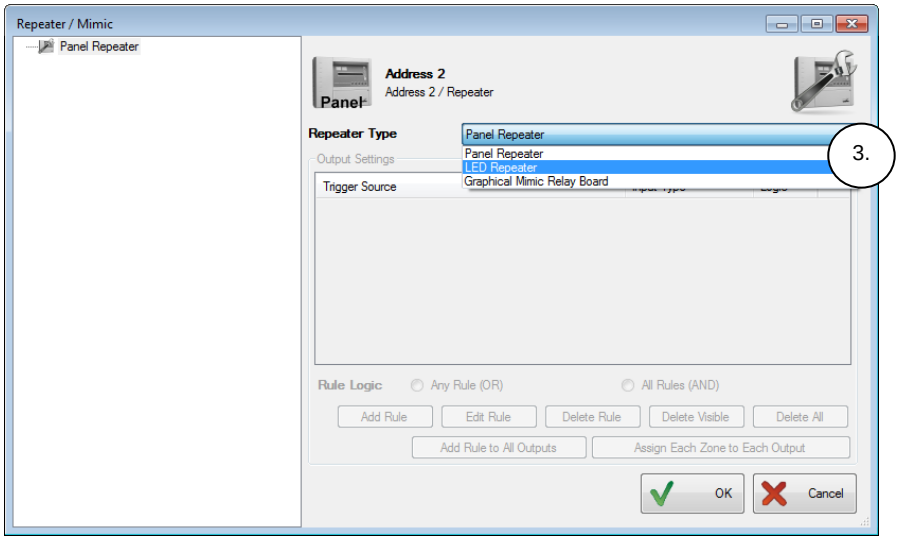
Setting up the LED Repeater:



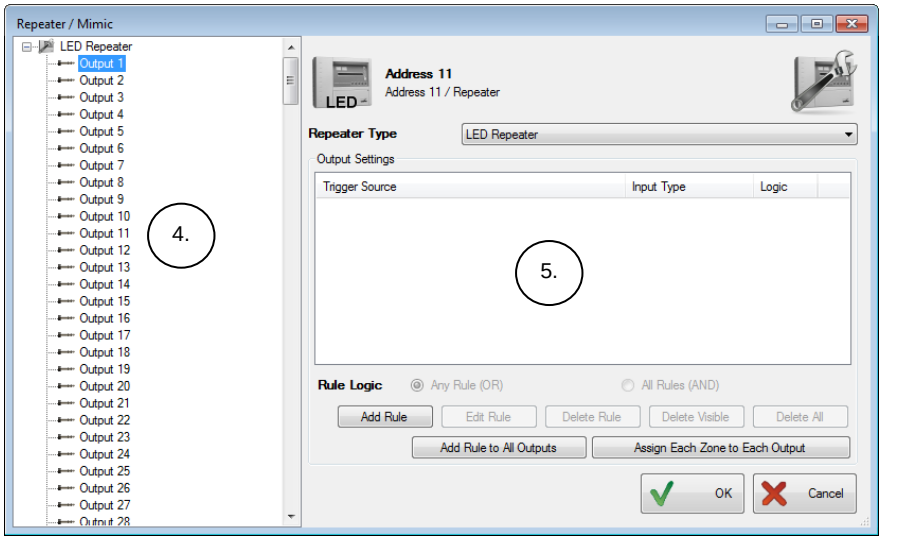
1. Locate the master board on the loop of the panel the device is connected to. It will appear as an undefined repeater.



2. Right click the undefined repeater icon and select “Edit Repeater”



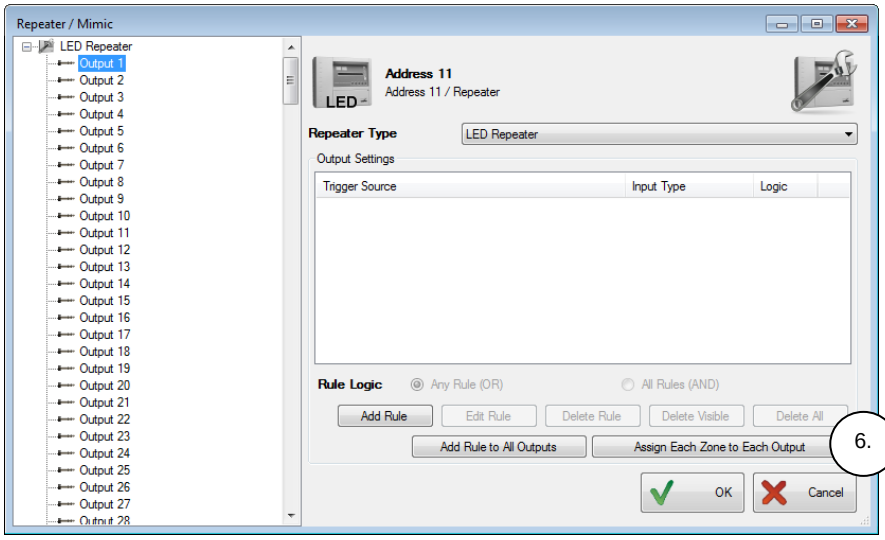
3. Click on the “Repeater Type” drop down list and select “LED Repeater”



4. All 250 outputs will appear in the list on the left hand side of the screen.

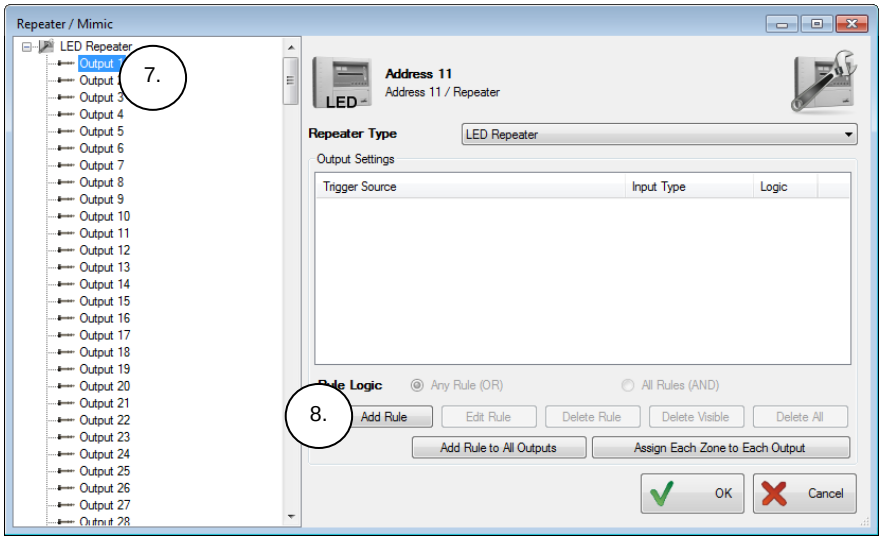
5. Clicking on any output will display the associated rules for that output (maximum of 5 rules allowed)

Assigning Each Zone to Each Output:



6. Click “Assign Each Zone to Each Output” to automatically assign the trigger rule of “Fire By Zone # on Panel #” to all associated outputs whose number corresponds to a zone that exists on the panels listed for the site. For example, if there are 2 panels with Zones 1 to 10 on each panel, then 2 rules will be created for each output; Fire By Zone 1 on Panel 1 and Fire By Zone 1 on Panel 2, etc (maximum of 5 rules allowed).

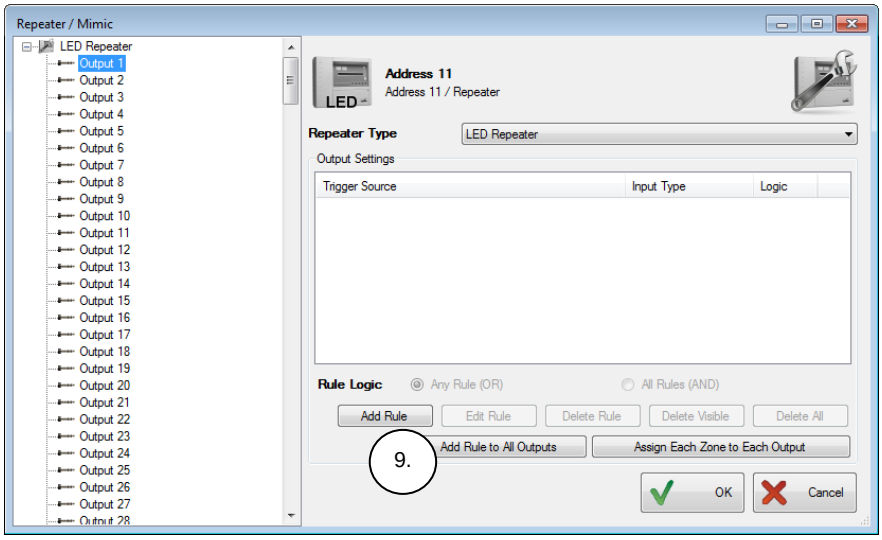
Adding a Rule to a Single Output:



7. Click the Output you wish to add a rule to.

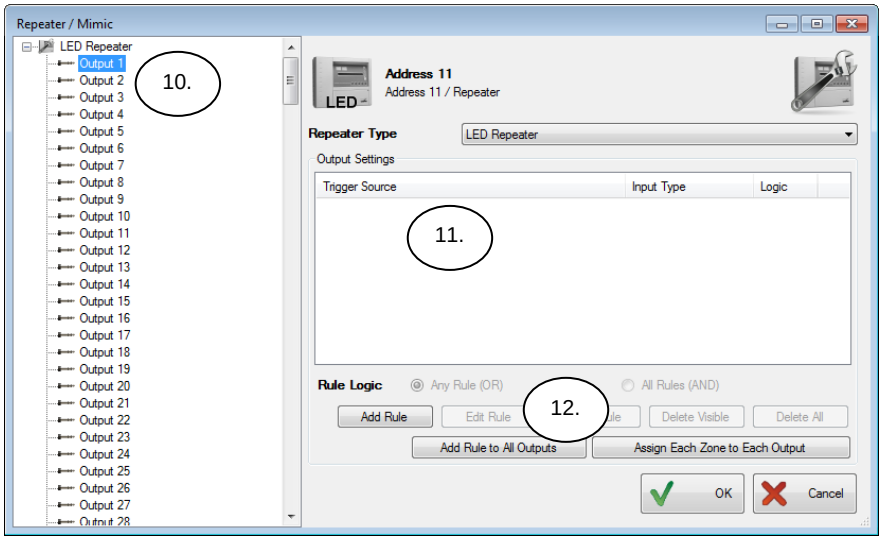
8. Click “Add Rule” to assign a single rule to the Output selected in the list in the left hand panel. Refer to “Defining a Rule” for more details on creating the appropriate rule triggers and sources.

Adding a Rule to ALL Outputs:



9. Click “Add Rule to All Outputs” to assign a single rule to all 250 Outputs. Refer to “Defining a Rule” for more details on creating the appropriate rule triggers and sources.

Editing a Rule for a Single Output:

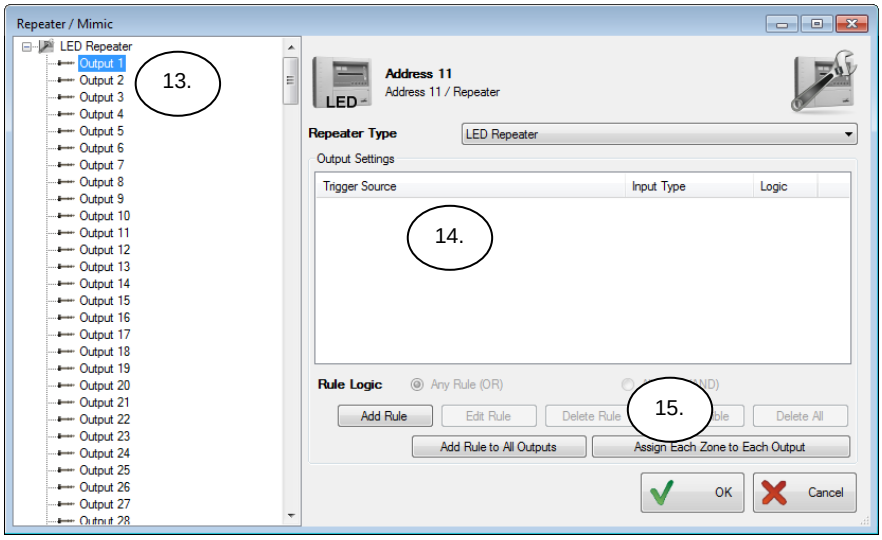


10. Click the Output you wish to edit the rule for.

11. Click the Rule you wish to edit

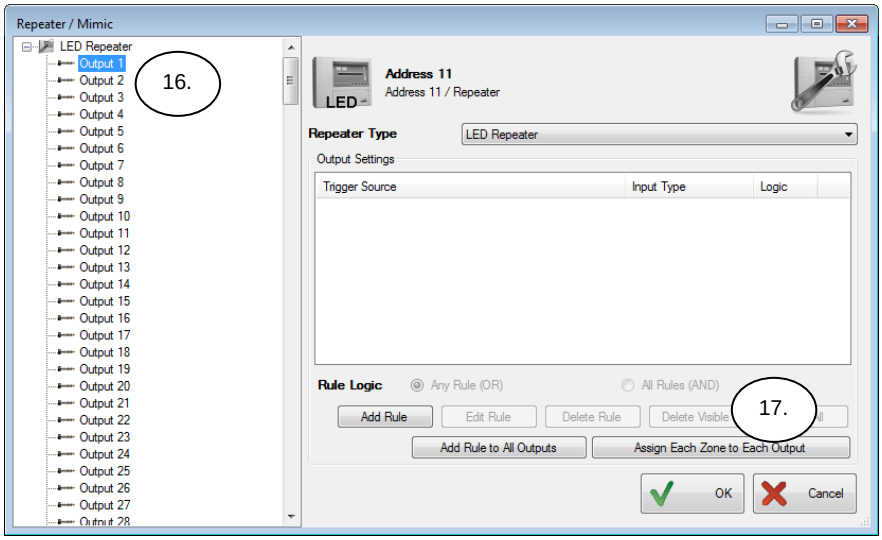
12. Click “Edit Rule” to change the rule selected for the output. Refer to “Defining a Rule” for more details on creating the appropriate rule triggers and sources.

Deleting a Rule from a Single Output:



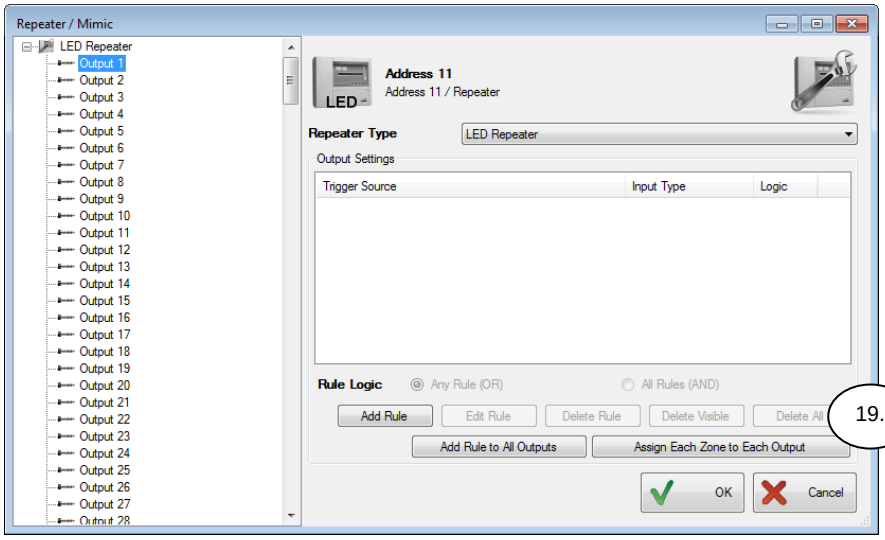
13. Click the Output you wish to delete the rule from.
14. Click the Rule you wish to delete
15. Click “Delete Rule” to remove the rule from the outputs settings list.

Deleting ALL Rules from a Single Output:



16. Click the Output you wish to delete the rules from.
17. Click “Delete Visible” to remove ALL the rules from the outputs settings list.
18. Click “OK” when the confirmation dialog box appears.

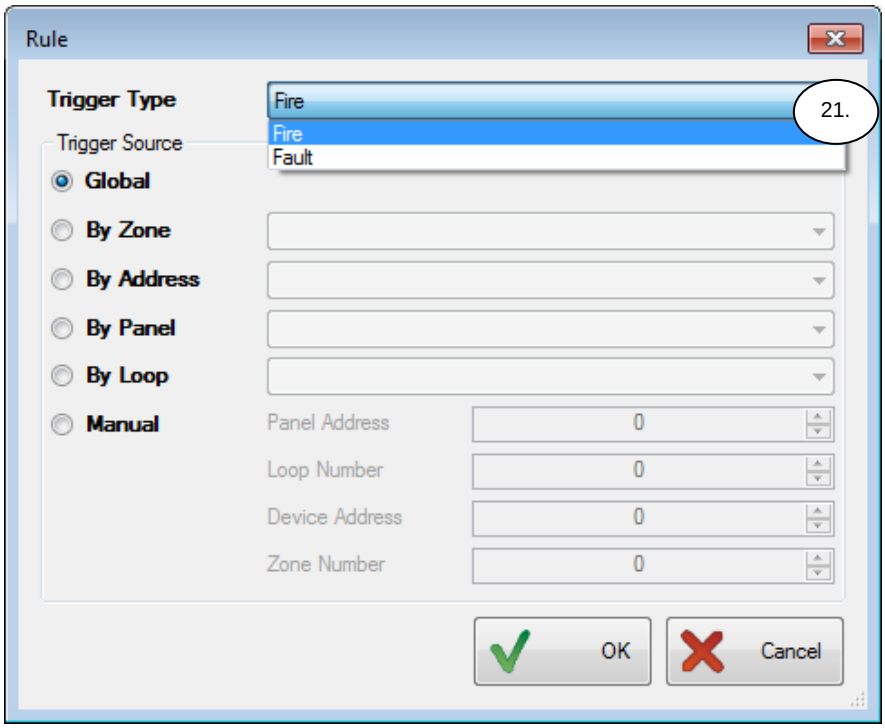
Deleting ALL Rules from ALL Outputs:



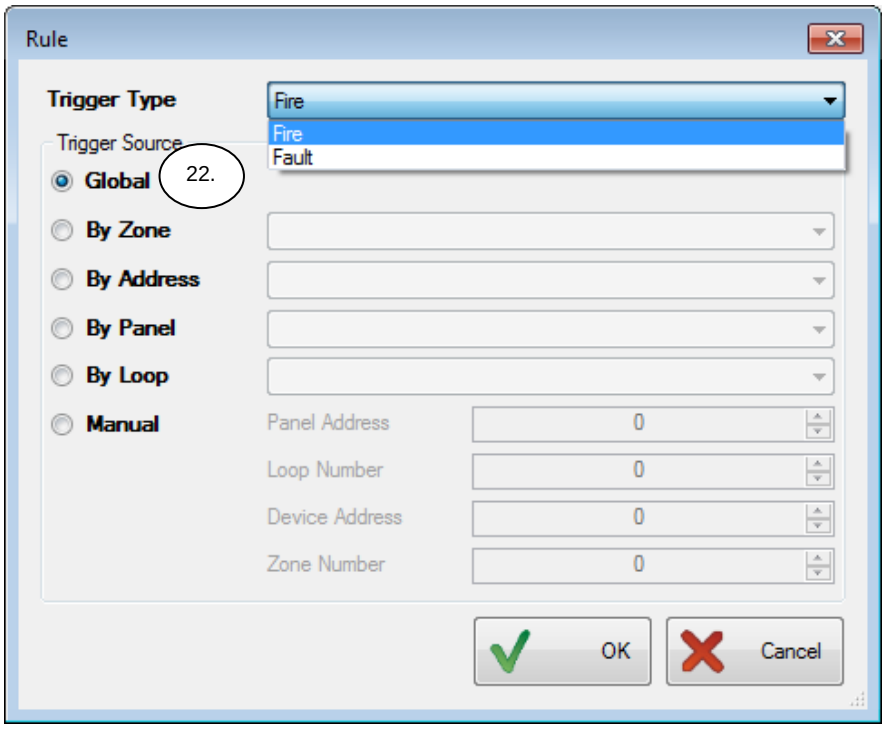
19. Click “Delete All” to remove ALL the rules from ALL outputs.

20. Click “OK” when the confirmation dialog box appears.

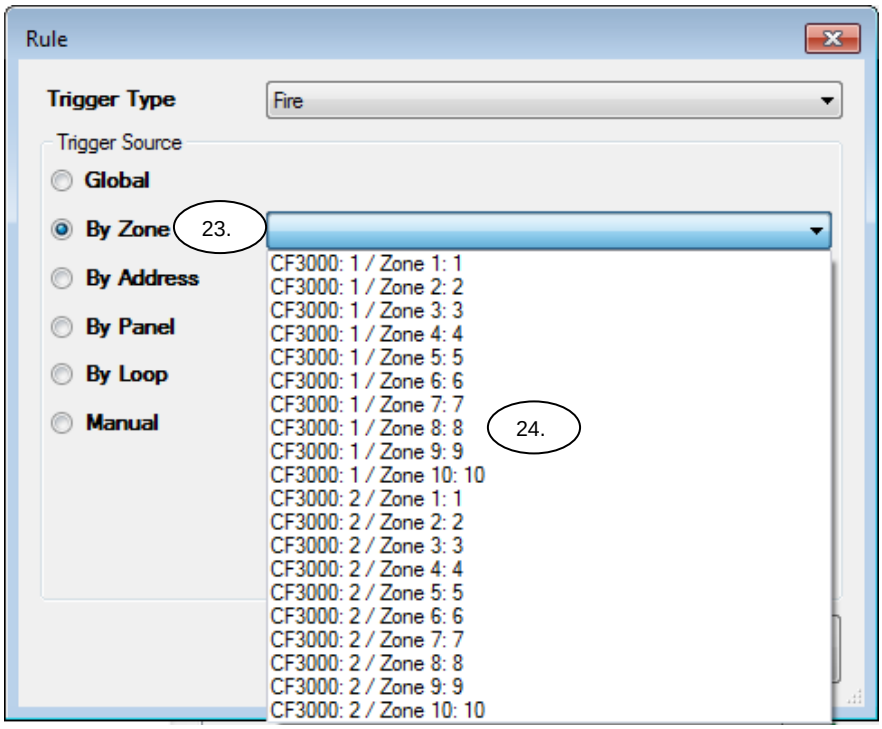
Defining A Rule:



21. Click the “Trigger Type” drop down list and select whether the LED Output triggers on a Fire or Fault event.

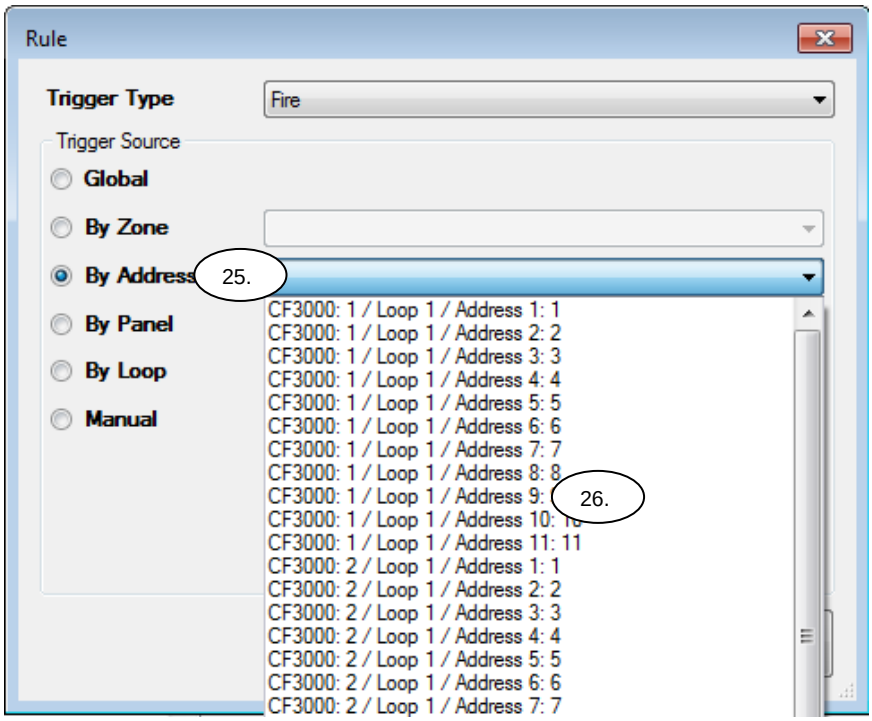


22. Select the “Global” trigger source if you want the output to trigger when the trigger type occurs on any Panel, loop, address or zone on the network/system.



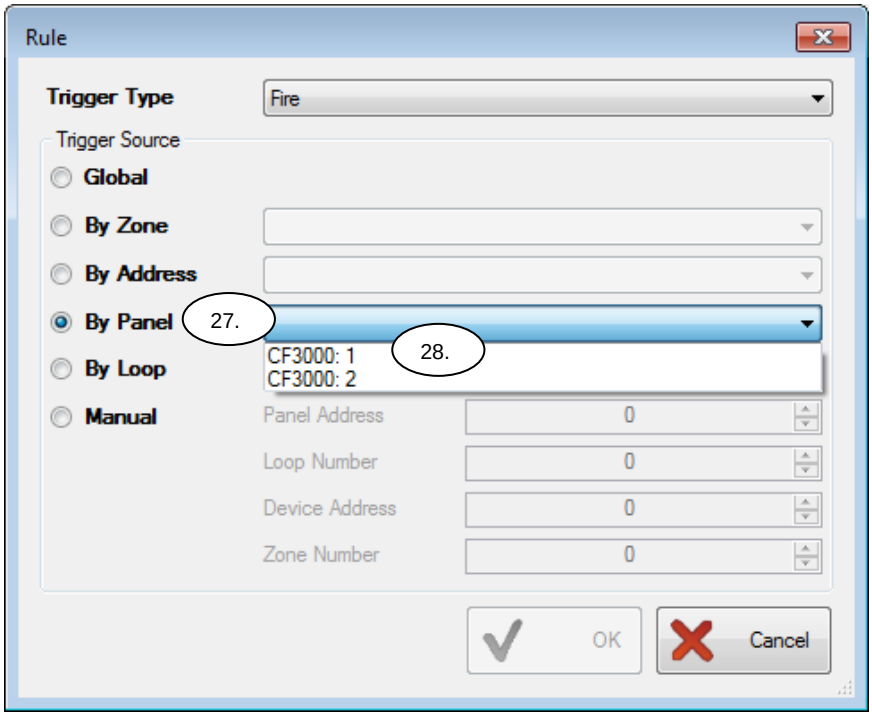
23. Select the “By Zone” trigger source if you want the output to trigger when the trigger type occurs on a specific Panel and Zone number.

24. Select the pane/zone required from the adjacent drop-down list.



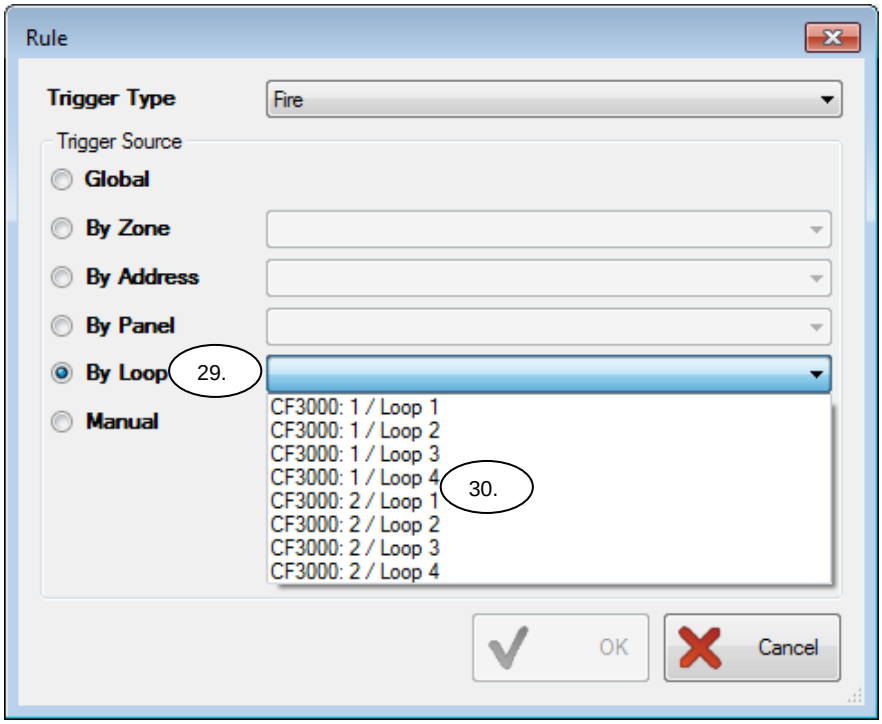
25. Select the “By Address” trigger source if you want the output to trigger when the trigger type occurs on a specific Panel, Loop and Address number.

26. Select the panel/loop/zone required from the adjacent drop-down list.



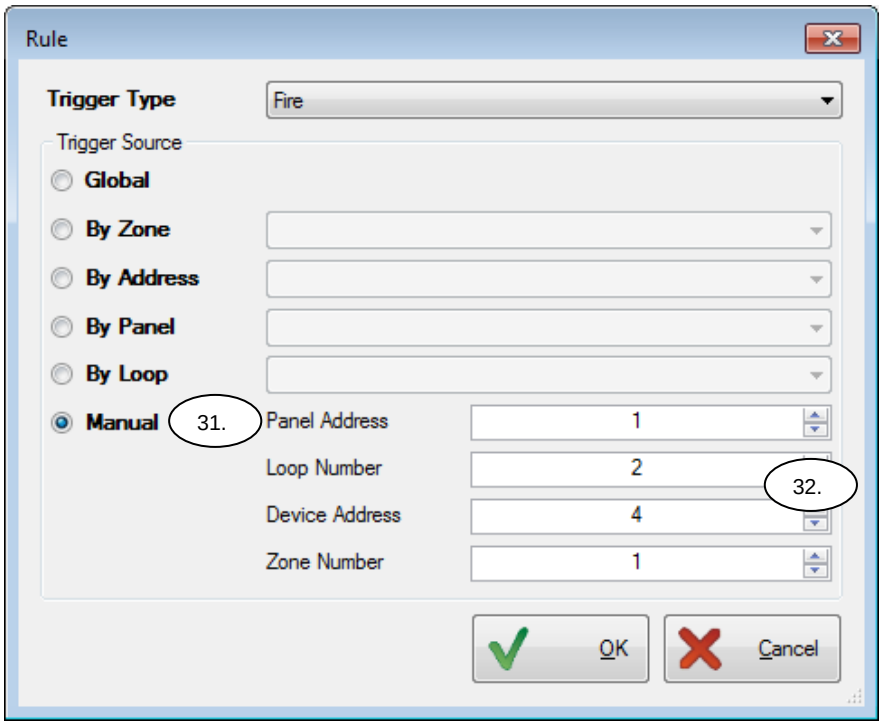
27. Select the “By Panel” trigger source if you want the output to trigger when the trigger type occurs on a specific Panel number.

28. Select the panel required from the adjacent drop-down list.



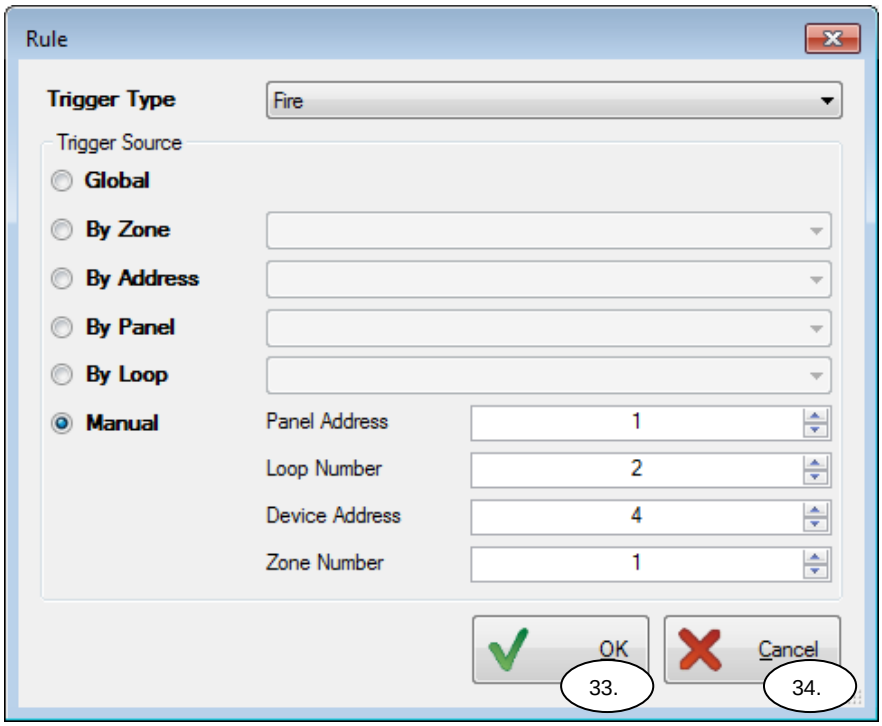
29. Select the “By Loop” trigger source if you want the output to trigger when the trigger type occurs on a specific Panel and Loop number.

30. Select the panel/loop required from the adjacent drop-down list.



31. Select the “Manual” trigger source if you want the output to trigger when the trigger type occurs on a specific Panel, Loop Address and Zone number.

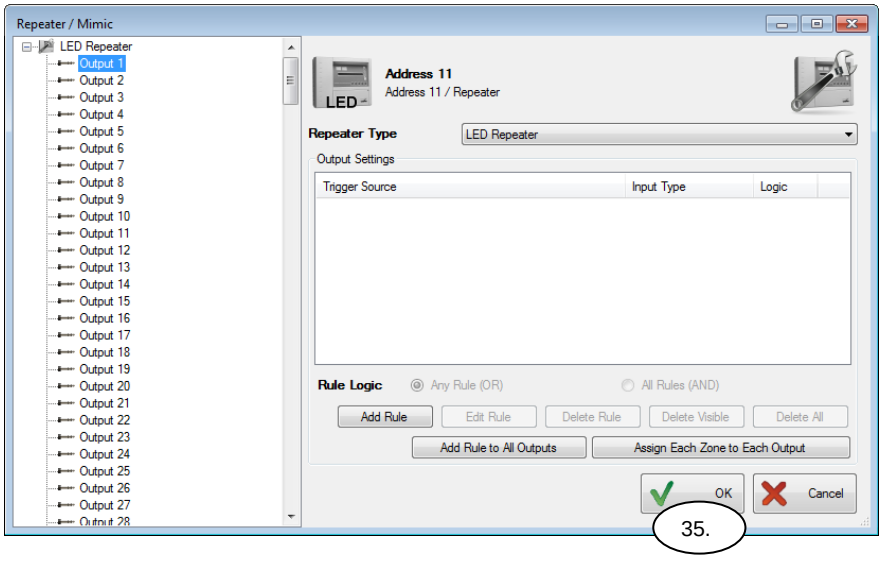
32. Enter the panel, loop, address, and zone numbers in the adjacent entry boxes.



33. Click the “OK” button to accept and apply the rule definition and close the Rule dialog box.

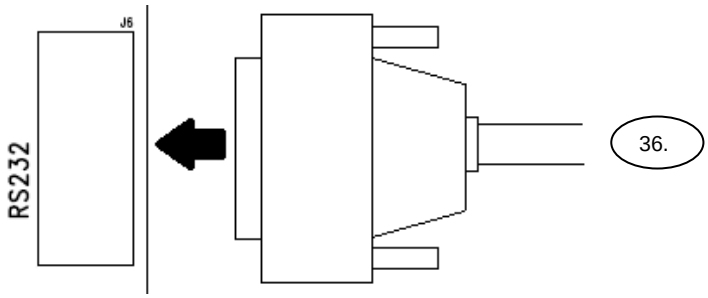
34. Click the “Cancel” button to discard the rule definition and close the Rule dialog box.

Closing the Edit Repeater Dialog Box:



35. Click the “OK” button to accept the rule definitions and close the Edit Repeater dialog box.

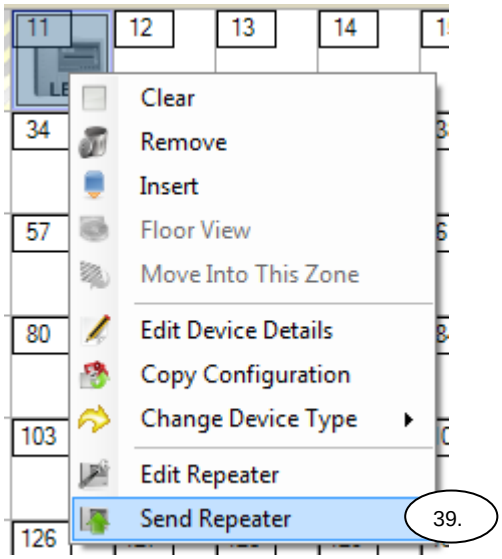
Uploading the Output Rules to the Master Board:



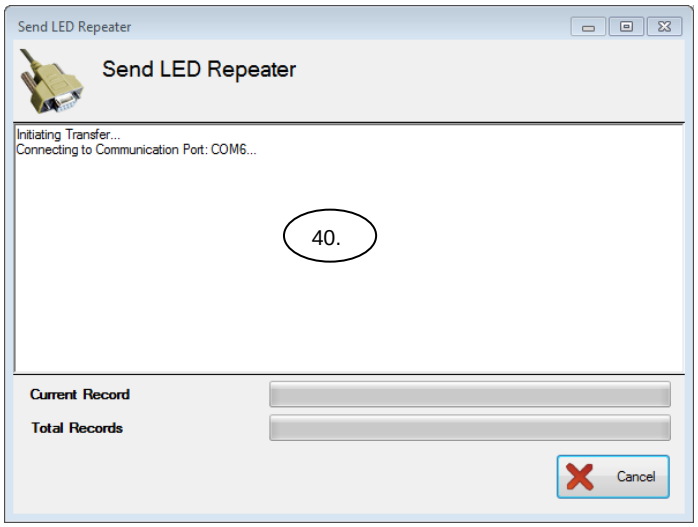
36. Connect the serial cable to the RS232 port (J6) on the Master board.

37. Move the jumper on J3 to the RS232 position. This will disable the loop communication with the CIE so a device missing fault will occur; this is normal.

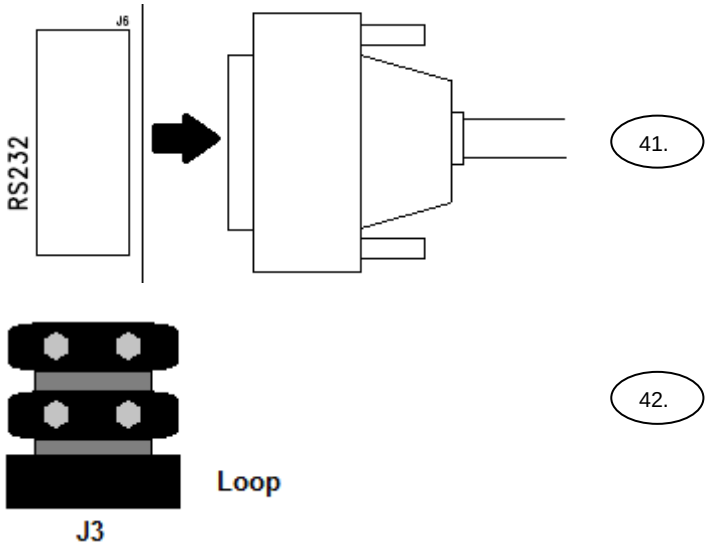
38. Press the RESET button on the master board.



39. Right click the LED repeater icon and select “Send Repeater”



40. Wait for the Send LED Repeater dialog to finish.



41. Disconnect the serial cable from the RS232 port (J6) on the Master board.
42. Move the jumper on J3 to the LOOP position. This will enable the loop communication with the CIE.
43. Press the RESET button on the master board.

Commissioning Instructions:

The commissioning instructions supplied with the CIE must be followed in order to commission the MIMIC boards (please refer to the Installation and Commissioning manual supplied with the CIE). As part of the CIE commissioning procedure each LED output will be exercised as each zone is placed into the fire condition. Please ensure that the cause and effect has been properly uploaded to the Master board before commissioning commences (please refer to Configuration Instructions).

Maintenance Instructions:

There are no serviceable parts so no maintenance procedures apply.

Installation Instructions for:

ZPCB2252-MML (Master) & ZPCB2252-MSL (Slave)

Technical Specification:

External PSU Specification	Minimum	Nominal	Maximum
Voltage	18VDC		30VDC
Current		1A	
Protection	PSU must have in-built fuse protection		
Fault monitoring	PSU must have in-built fault monitoring		
Certification	EN54-4: 1997 + A1:2002 + A2:2006		

Cable Specification	Minimum	Nominal	Maximum
Size	0.5mm^2		2.5mm^2
Recommended Type	DRAKA – FIRETUF, FP200		

Loop Specification	Minimum	Nominal	Maximum
Operating Voltage (Vmin and Vmax)	18.5VDC		30VDC
Quiescent Current		310µA	
Alarm Current		310µA	
Addressing Mode	Auto-addressing from the CIE		
Compatibility	Suitable for use with Eaton Analogue Addressable Fire Systems (800 series protocol PR200-07-400)		

Short Circuit Isolator Specification	Minimum	Nominal	Maximum
Total Loop Resistance for correct operation of short circuit isolator			50Ω
Parallel Fault Resistance to be seen at the Control Panel for isolators to open		200Ω	
Continuous Current allowable through isolator (Ic max)			700mA
Isolator Resistance in closed state (Zc max)			0.26Ω
Leakage Current into direct short circuit with isolator open (IL max)			14mA
Voltage at which isolator changes from open to closed state (Vsc min & max)	3.8V		11V
Voltage at which isolator changes from closed to open state (Vso min & max)	3.8V		11V
Maximum switching current to isolator (IS max)			1.5A
This addressable device contains an integral short circuit isolator, which operates between the – IN terminal and the – OUT terminal. The isolator operates in conjunction with the Cooper Addressable Control Panel when a low parallel resistance fault of typically 200Ω is present between the +VE and –VE of the loop wiring.			

LED Output Specification	Minimum	Nominal	Maximum
Voltage (Per Output)		24VDC	30V
Current (Per Output)			10mA
Number of LEDs (Per PCB)			32
Number of LEDs (Total)			250

PCB Specification	Minimum	Nominal	Maximum
Number of Masters			1
Number of Slaves	0		7
ZPCB2252-MML Dimensions	140 x 290 (mm)		
ZPCB2252-MSL Dimensions	140 x 290 (mm)		

Environmental Specification	Minimum	Nominal	Maximum
Operating Temperature	-10°C		+45°C
Humidity (Non Condensing)	0%		95%

Mechanical Specification	Minimum	Nominal	Maximum
Material	PC / ABS		
Dimensions (w / h / d)	350mm x 190mm x 75mm		
Ingress Protection	IP30		

Certification	
EN54-17: 2005*	Short Circuit Isolators
EN54-18: 2005	Input / Output Devices

* EN54-17 is only applicable to ZPCB2252-MML.

Manufacturer's Contact Details:

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DOP0019

ZPCB2252-MML*
Input / Output device with short circuit isolator

ZPCB2252-MSL
Input / Output device

EN54-17:2005*		EN54-18:2005	
Essential Characteristics	**Performance**	**Essential Characteristics**	**Performance**
Performance Under Fire Conditions	Pass	Performance Under Fire Conditions	Pass
Response Delay (Response Time To Fire)	Pass	Response Delay (Response Time To Fire)	Pass
Operational Reliability	Pass	Operational Reliability	Pass
Durability Of Operational Reliability, Temperature Resistance	Pass	Durability Of Operational Reliability, Temperature Resistance	Pass
Durability Of Operational Reliability, Vibration Resistance	Pass	Durability Of Operational Reliability, Vibration Resistance	Pass
Durability Of Operational Reliability, Electrical Stability	Pass	Durability Of Operational Reliability, Electrical Stability	Pass
Durability Of Operational Reliability, Humidity Resistance	Pass	Durability Of Operational Reliability, Humidity Resistance	Pass

* EN54-17 is only applicable to ZPCB2252-MML.