



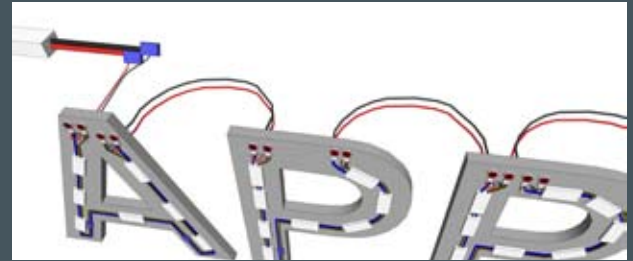
Wiring Guide

A quick look at best practice and simple LED wiring

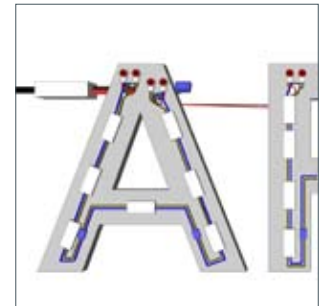
Technical Brochure

Daisy chained

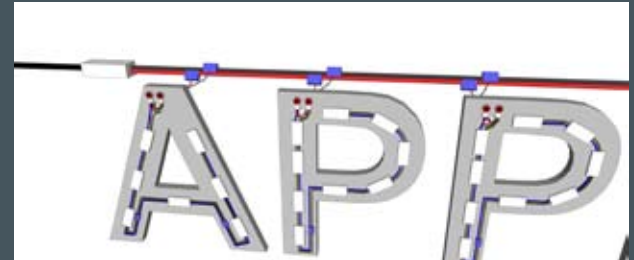
Series wired



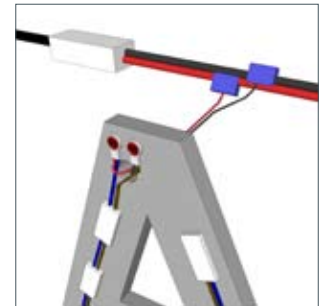
- Live current passes from LED to LED
- This method is often preferred when no access to the rear of the wall/facade is available
- 3M Scotchloks are usually connected in the letters making them easy to maintain from the front of the sign



Parallel wired



- LEDs are tapped into and fed from a live wire/source
- Easy to fault find
- Wiring and some connections will be hidden behind facade/wall/tray. This means that access to the back of the wall or tray may be needed to maintain or service the sign



3M Connectors



- 12v / 24v
- Scotchlok UY2
- Series only
- 0.4 - 0.9mm wire
- Moisture resistant



- 12v / 24v
- Scotchlok UR2
- Series only
- 0.4 - 0.9mm wire
- Moisture resistant



- 12v / 24v
- UB2A tap connector
- Series or parallel
- 0.4 - 0.9mm wire
- Moisture resistant



- 12v / 24v
- Scotchlok 804
- Series or parallel
- Up to 1.5mm wire
- Moisture resistant

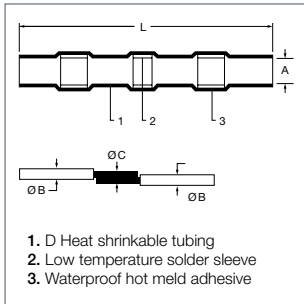


- 3M crimping tool
- E-9BM
- To ensure the connection is properly engaged
- For use with all Scotchlok connectors

Solder Sleeves



- Shrink ratio 2:1
- Available in four sleeve sizes
- Waterproof wiring splices
- Transparent sleeve allows inspection
- Controlled soldering process



Product Dimensions

Part No.	Product Dimensions (mm)		Wire Dimensions (mm)			Colour
	A (min.)	L (min.)	B (min.)	B and C (min.)	C (min.)	
ASC-11	1.7	26	1.0	1.7	0.76	White
ASC-21	2.7	40	1.4	2.7	1.2	Red
ASC-31	4.5	40	2.3	4.5	2.0	Blue
ASC-41	6.0	40	3.7	6.0	3.4	Yellow



Technical indicators

MAX operating temperature	- 55°C ~ + 125°C
Shrinking temperature	> 160°C
Dialectic strength	1 kV
Protection type	IP67

Operating temperature range

Operating temperature: - 55°C - 125°C
 Minimum shrink temperature: 80°C
 Starting temperature of solder melt: 138°C
 Minimum full recovery temperature: 160°C

Wire Gauge Distance Chart

When the distance increases between the secondary side of the power supply and the first LED in a letter or the beginning of a tubing run, the gauge of wire needed will change as follows:

Distance in meters from power supply	Wire gauge
0 to 4,6 m 18 AWG (1mm ²) + 1,5 m of 18 AWG (1mm ²)	18 AWG (1mm ²)
4,6 to 15,2 m 14 AWG (2.5mm ²) + 1,5 m of 18 AWG (1mm ²)	14 AWG (2.5mm ²)
15,2 to 38,1 m 12 AWG (4mm ²) + 1,5 m of 18 AWG (1mm ²)	12 AWG (4mm ²)
38,1 to 61 m 10 AWG (6mm ²) + 1,5 m of 18 AWG (1mm ²)	10 AWG (6mm ²)

NOTE: MODWE power supply comes from the factory with 1.5m of 18 AWG (1mm²) wire in place on the secondary side.

Available 12 VDC Power Supplies

For use with SloanLED 12 VDC products

Item description	Part number	Nominal input voltage	Output voltage
Self-Contained 20W	701680	100-240 V	12 VDC
MODWE 60 W	701507-MODWE	100-240 V	12 VDC

Available 24 VDC Power Supplies

For use with SloanLED 24 VDC products

Item description	Part number	Nominal input voltage	Output voltage
24 VDC 100 W	701895-24C	100-240 V	24 VDC

Examples



A single LED is a very useful thing to keep in your tool box/ van.



It is an instant way of telling you your transformer is working



Circuit terminated



Circuits left open for parallel wiring onsite



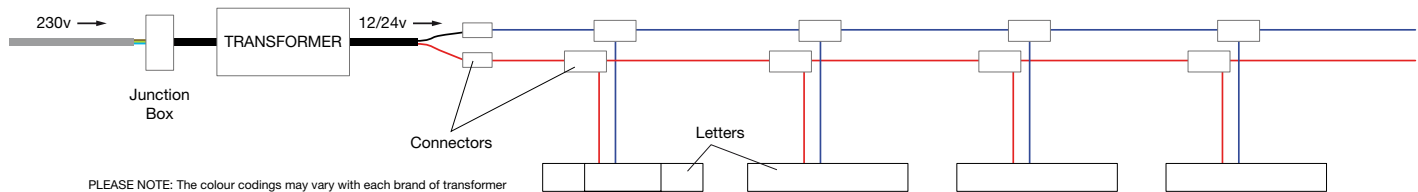
Series wiring visible between each letter, on brickwork

Problem solving: Parallel

None of the letters are lit:

1. Is the 230v feed to the sign on?
2. Is the connection from the 230v to the transformer ok?
3. Does the transformer work? (Test with single LED)
4. Check you are connecting the correct wires! i.e. Live > live, Neg > neg*.
5. Is the connection from the live transformer to the running wire ok?
(Test with single LED)

6. If all ok then every letter must have a poor connection to the running wire. Recompress each connector with the 3M crimping tool
7. If all connections are correct then the LEDs must be damaged. This could have been caused by water ingress, 230v** charge or poor quality LEDs



Individual letters are not lit:

- This is an easier fix due to the fact that we know there is a live feed and the transformer works, because some of the letters are lit.
- If individual letters are out, check each connection with the running wire.

The most common causes of poor connections are people using pliers instead of the Scotchlok tool. Use the Scotchlok tool to engage the connector.

- If the letters do not light see point 7

*Don't worry, switching the wiring round on the 12v side will not do any harm to yourself or the LEDs

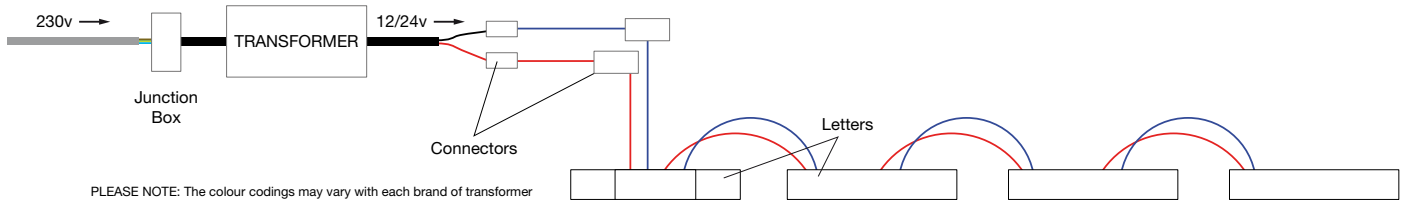
**Connecting LEDs directly to a live 230v feed instead of the transformer will blow the diodes causing permanent failure

Problem solving: Series

None of the letters are lit:

1. Is the 230v feed to the sign on?
2. Is the connection from the 230v to the transformer ok?
3. Does the transformer work? (Test with single LED)
4. Check you are connecting the correct wires! i.e. Live > live, Neg > neg*.

5. If all ok then you must have a poor connection, probably located in the first letter. Recompress each connector with the 3M crimping tool
6. If all connections are correct then the LEDs must be damaged. This could have been caused by water ingress, 230v** charge or poor quality LEDs



Individual letters are not lit:

- This is an easier fix due to the fact that we know there is a live feed and the transformer works, because some of the letters are lit.
- With this style of wiring, Individual letters cannot go out due to poor connections unless it is the last letter.
- If a bank of letters are not lit, then check the connection from the last

letter that is lit with the first letter that is not lit.

- The most common causes of poor connections are people using pliers instead of the Scotchlok tool. Use the Scotchlok tool to engage the connector.
- If the letters do not light then see point 6

*Don't worry, switching the wiring round on the 12v side will not do any harm to yourself or the LEDs

**Connecting LEDs directly to a live 230v feed instead of the transformer will blow the diodes causing permanent failure

For more information about wiring
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