



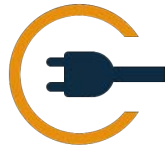
Continuity
Harness & Loom

CONTINUITY ARROW BOARD INSTALLATION AND SERVICE GUIDE.



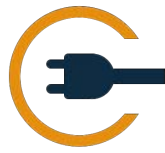
The Continuity arrow board have been designed with simplified installation and reliable service in mind. These arrow boards, as is the case with all arrow boards, should only be installed by a qualified auto-electrician. For guidance beyond the scope of this manual, please call (07) 3612 9888.

**PLEASE NOTE THIS ARROW
BOARD IS A 12Vdc DEVICE. A
10Amp REDUCER MUST BE
USED IN 24Vdc**



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INSTALLATION:

Regardless of specific models. All Continuity arrow boards are supplied fully assembled, programmed and tested. After un-packing your arrow board please examine the item for any signs of transit damage prior to installation. When handling your arrow board please ensure you have a coworker assist in lifting. Depending on configuration, the arrow board assembly will weigh between **24 - 30kg** and should always be a 2 person lift.



There are numerous methods of attaching the arrow board to the host vehicle. Exact physical will always be at the discretion of the fleet operator and no specific guidance will be given. Other than the following general advice:

- The arrow board should be securely anchored to the vehicle in a manner compliant with all local and national legislation.
- A minimum of X4 M8 high tensile fixings should be used, in combination with nylock nuts and thread locking compound.
- Provisions are made in the base mounting plate for hundreds of fixing location combinations. To avoid negatively impacting the arrow boards corrosion protection, the drilling of additional mounting holes should be avoided.
- A dimensioned drawing of the mounting footprint of the arrow board is supplied at the rear of this document.
- Consideration of the weight of the arrow board as well as the braking, cornering and acceleration should be given.
- Be aware of minimum height clearance for the location the vehicle is likely to operate in.
- If in doubt, please call and ask. (07) 3612 9888.

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With the arrow board mounted to the vehicle in an appropriate manner, the cable should be run from the arrow board into the vehicle. The wiring harness may be unplugged from the arrow board by turning the 31 pin connector shroud anti-clockwise. Although this connector is keyed to avoid incorrect insertion, some care must be taken to avoid any damage if the connector is forced.

When routing the arrow board harness, consideration should be given to the articulation of the arrow board. The harness should be oriented so that the rubber boot points towards the driver's side of the vehicle. The cable should

The arrow board ECU should be mounted inside the environmentally protected vehicle interior.

If the nature of the installation precludes this, the ECU enclosure **MUST** be mounted with the cable entries at the bottom, in as clean, dry area as possible. Steps should be taken to avoid high temperatures and moving parts.

The arrow board harness should not be cut or extended, for special lengths please contact us.

With all the arrow board harness connections restated, and the ECU enclosure securely mounted **INSIDE** the vehicle, the power and earth connections may be made to the battery. It is not recommended that the device be switched by either an override or ignition switch, to ensure correct operation of the actuator.

The earth connection should be made to an OEM chassis earth node using a ring terminal. A suitable waterproof fuse holder or circuit breaker should be installed in the power wire, as close as possible to the battery positive. The fuse or breaker should be 15Amps quick blow.

With all power connections made, the dash control panel should be securely mounted on the dash board in a suitable location away from airbag deployment zones, controls etc. With the control panel mounted, the external harness may be run to the ECU, avoiding sharp edges and potential crush points. Route the 4pin connector through the ECU enclosure into place.

If the diagnostic LEDs are behaving, please test the operation of the arrow board. By turning the rotary switch on the dash controller, the board will automatically raise to the upright position. Ensure you have height clearance before turning the switch.

Raising the board may be halted by simply turning the rotary switch to the off position. In addition to the fuse, the actuator motor wiring has a programmable current threshold and timer. This has been factory set - call tech support if you wish to make further adjustments to these settings.

Please check operations of each flash pattern and the LED beacons. If when selecting any of the flash patterns, the only pattern displayed is the alternate flashing corners, please change the vehicle battery. The device is programmed to switch to this pattern to alert the operator of a low battery.

If the mounts that the arrow board is secured are not entirely horizontal, the upright angle of the board may be adjusted by loosening the fixings shown and manually setting the vertical of the board with a spirit level. Be sure to fully tighten the adjusting nuts after you have set your desired angle.

Fault Finding;

Here is a list of possible issues, along with there solutions.

No operation, no lights on PCB

- Check earth connection
- Check main 15amp fuse

No operation, LEDs glowing on PCB

- Replace blown fuses
- Check all connections

Lights are flashing, but board doesn't raise

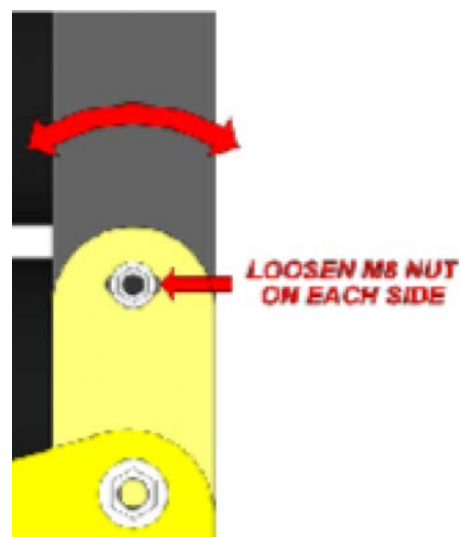
- Check polarity of actuator

Lights flashing incorrect patterns

- Charge battery

Actuator doesn't go all the way

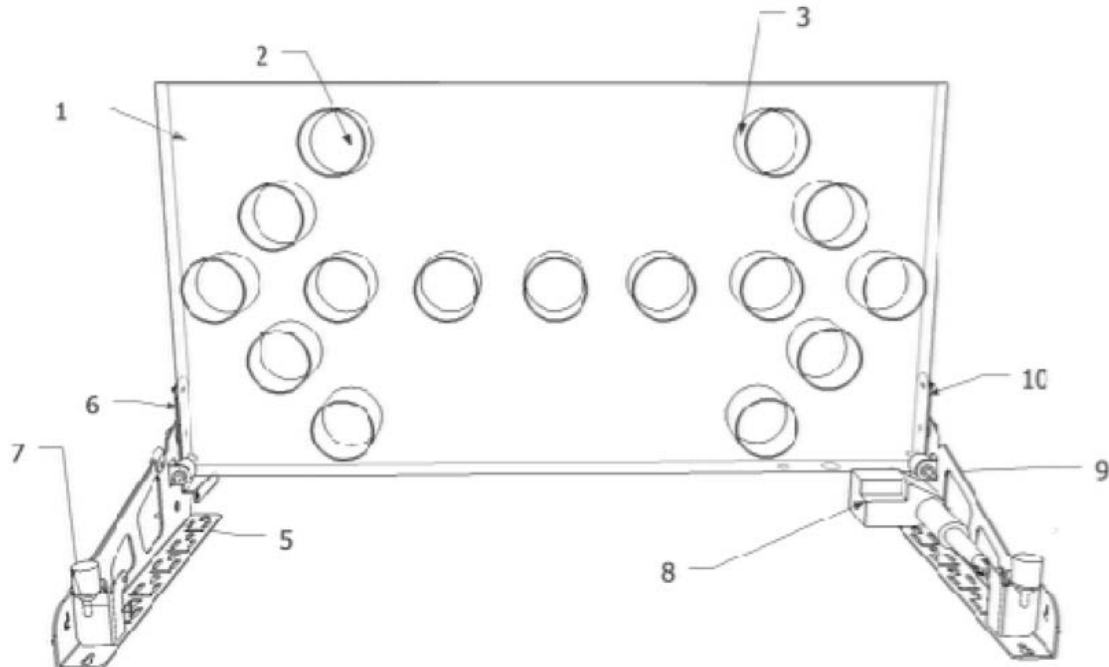
- Call support for programming advice.



Continuity arrow boards come with a comprehensive warranty.

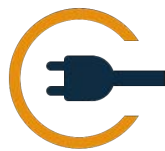


DIAGRAM/SPECS



LABEL	PART NO#	DESCRIPTION
1	CT-PABBODBDS	ARROW BOARD BODY
2	CT-VMAB-L95	LED LAMP ASSEMBLY
4	F40X40-B3	RUBBER END STOP
5	CT-PABMKII(KIT)	COMPLETED BRACKET KIT
8	CT-3531A1+00200A20	LINEAR ACTUATOR
9	CT-PABMKII(KIT)	COMPLETED BRACKET KIT
10	CT-PABMKII(KIT)	COMPLETED BRACKET KIT
NOT SHOWN	CT-AB-SINGLE/DOUBLE-CONT	DASH CONTROLLER
NOT SHOWN	CT-AB-SINGLE/DOUBLE-INT	INTERNAL HARNESS
NOT SHOWN	CT-AB-SINGLE/DOUBLE-EXT	EXTERNAL HARNESS
NOT SHOWN	CT-AB-BOLT-KIT	COMPLETED BOLT KIT
OPTIONAL ITEMS		
CT-AB-GPS-OPTION		AUTO RAISE/LOWER KIT (GPS)
CT-AB-REDUCER-OPTION		REDUCER TO SUIT 24V VEHICLE
CT-AB-BEACONS-OPTION		BEACONS KIT
CT-AB-WORKLIGHTS-OPTION		WORKLIGHT KIT

Please refer to diagram for part numbers.

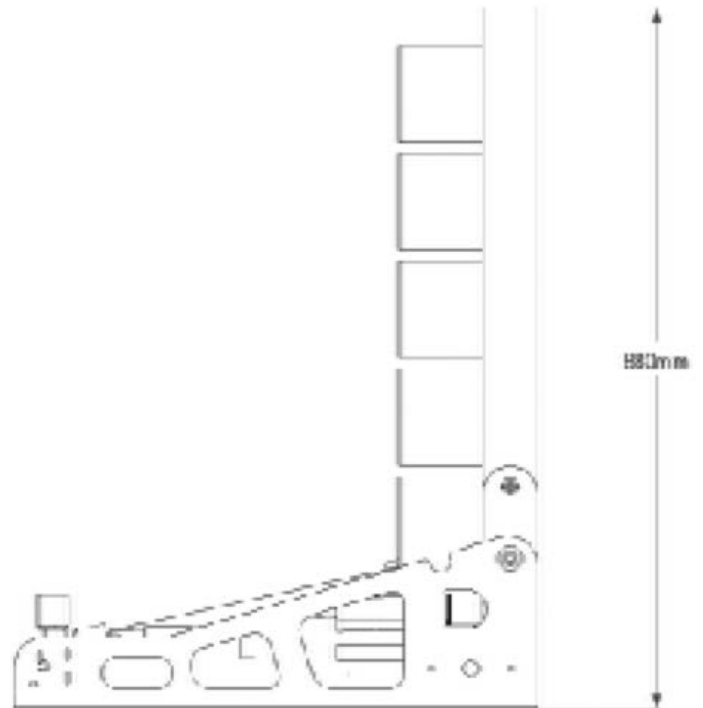


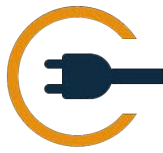
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DIAGRAM/SPECS



Weight	29kg
Operating Voltage	11.8 – 14.8 Vdc
Lamp Current	1.25A (Max 5amp)
Motor Current	2A (Max 8amp)
Lamp Warranty	2 Years
Actuator Warranty	3 Years
Electronics Warranty	2 Years
Mechanical Warranty	5 Years
Reverse Polarity Detection	Yes
Speed Sensing	Optional
Auto Raise/Lower	Yes
Onboard Diagnostics	Yes





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MAIN MULTI CONTROLLER

PROUDLY MANUFACTURED IN AUSTRALIA BY CONTINUITY HARNESS & LOOM

CT - PAB

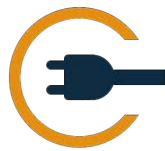
ARROW BOARD CONTROLLER

PIN#	PLUG A	PLUG C	PLUG D	PLUG B
1	ACTUATOR	A1	B1	CONT. 12V (1)
2	ACTUATOR	A2	B2	CONT. "A" (2)
3	BUZZER	A3	B3	CONT. "B" (3)
4	LDR	A4	B4	CONT. NEG (4)
5	NEG	A5	B5	GPS +5V
6	NEG	A6	B6	GPS DATA IN
7	NEG	A7	B7	GPS DATA OUT
8	NEG	A8	B8	GPS NEG
9	NEG	A9	B9	NEG (<3AMP)*
10	BEACON	NEG	NEG	NEG (<3AMP)*
11	POS	RS232 OUT	SPARE 1 OUT	NEG (<3AMP)*
12	POS	RS232 IN	SPARE 1 IN	NEG (<3AMP)*

SUM OF CURRENT INTO PINS B9+B10+B11+B12 NOT TO EXCEED 5 AMPS TOTAL
DIAL (07) 3612 9888 FOR SERVICE INFORMATION



A	B	C	D
DE-DT06-12SA	DE-DT06-12SB	DE-DT06-12SC	DE-DT06-12SD
GREY	BLACK	GREEN	BROWN
			SINGLE EXT WON'T HAVE PLUG D



MAIN MULTI CONTROLLER - FAULT CODES

Fault Condition	Board Response	Buzzer	Dash Unit	Notes
Under Voltage < 11.8v	Flashing "Alternate Corners"	Beep Code 1	Flash Code 1	Recovers to previous state when voltage back in range
Over Voltage >15.0v	-	Beep Code 2	Flash Code 2	Remains in current state
Linear Actuator Over Current	Board movement stops	Beep Code 3	Flash Code 3	Must be reset by returning Mode switch to OFF position
Vehicle Over Speed	Board lowers	Beep Code 4	Flash Code 4	Recovers to previous state when speed decreases
Dash Unit disconnected or no data	Board LEDs OFF. Beacons OFF. Board lowers	Beep code 5	-	Power to system must be cycled

To avoid false triggering, under voltage or over voltage conditions must exist continuously for at least 1 second before a fault condition is recognised.

Vehicle over speed detection requires GPS to be connected and to have attained a satellite fix. To avoid false triggering, speed must be above/below threshold continuously for at least 3 seconds to be recognised.

LEDs:

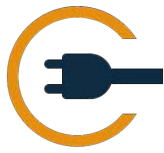
1	Green	Onboard +5v supply	
2	Green	Flashing 1 Hz	System "heartbeat processor is running.
3	Green	Flashing 2.5Hz	Data comms with dash unit
4	Not Implemented		
5	Green	Flashing 1Hz	Data from GPS
6	Not Implemented		
7	Not Implemented		

Adjustments:

Dipswitch 1	OFF = Single Board; ON = Dual Board	
Dipswitch 2	Not Implemented	
Dipswitch 3	Not Implemented	
Dipswitch 4	OFF = Normal; ON = Transmit Diagnostic Data via pin C11	
VR1	Motor trip current	Adjustable range 2 to 8 Amps
VR2	Actuator run timer	Adjustable range 5 to 55 seconds
VR3	Vehicle Overspeed	Adjustable range 30 to 70 km/h

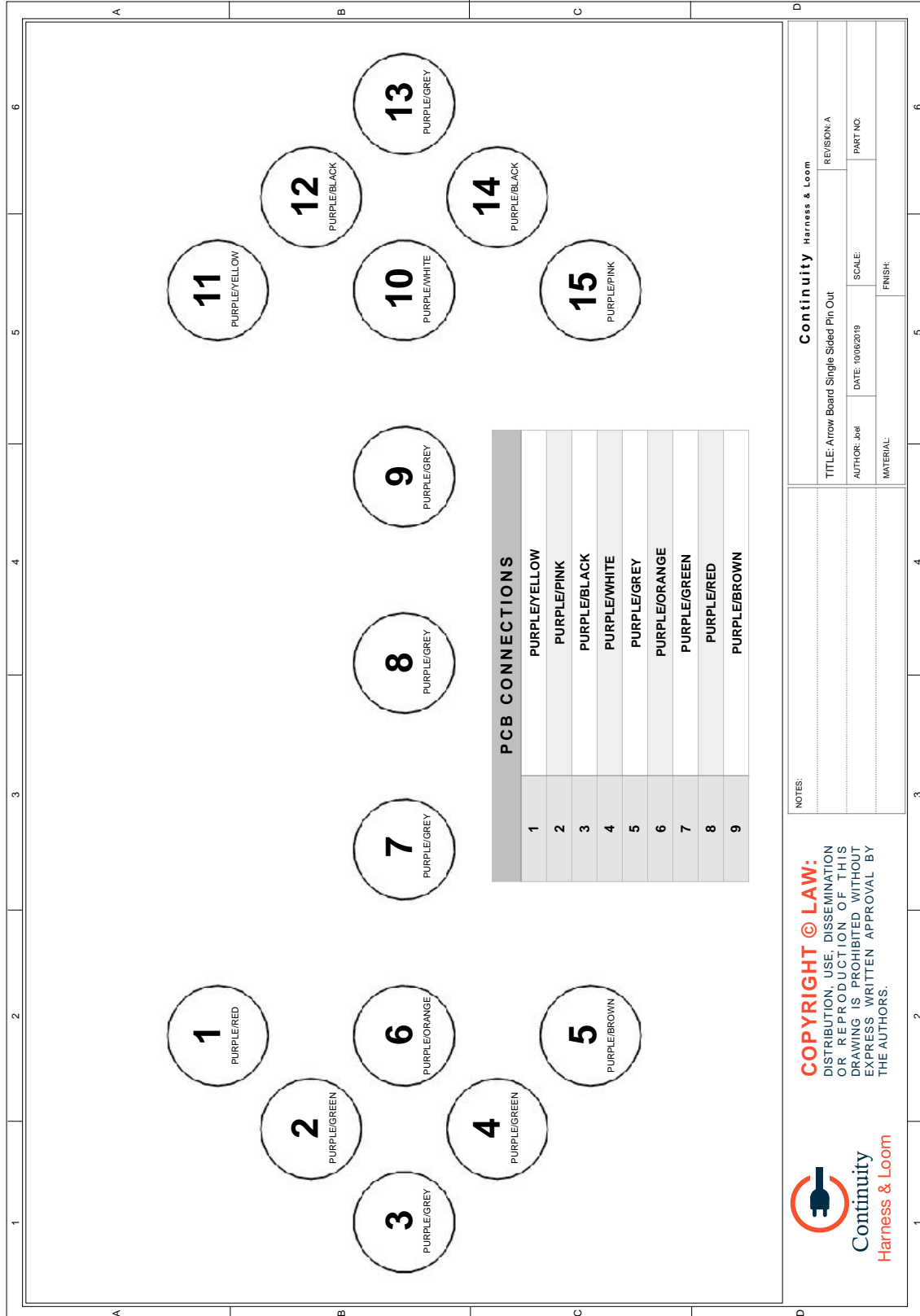
GPS:

Has a read LED which will flash once per second when a satellite fix is attached.



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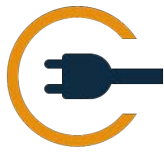
SINGLE SIDED PIN OUT



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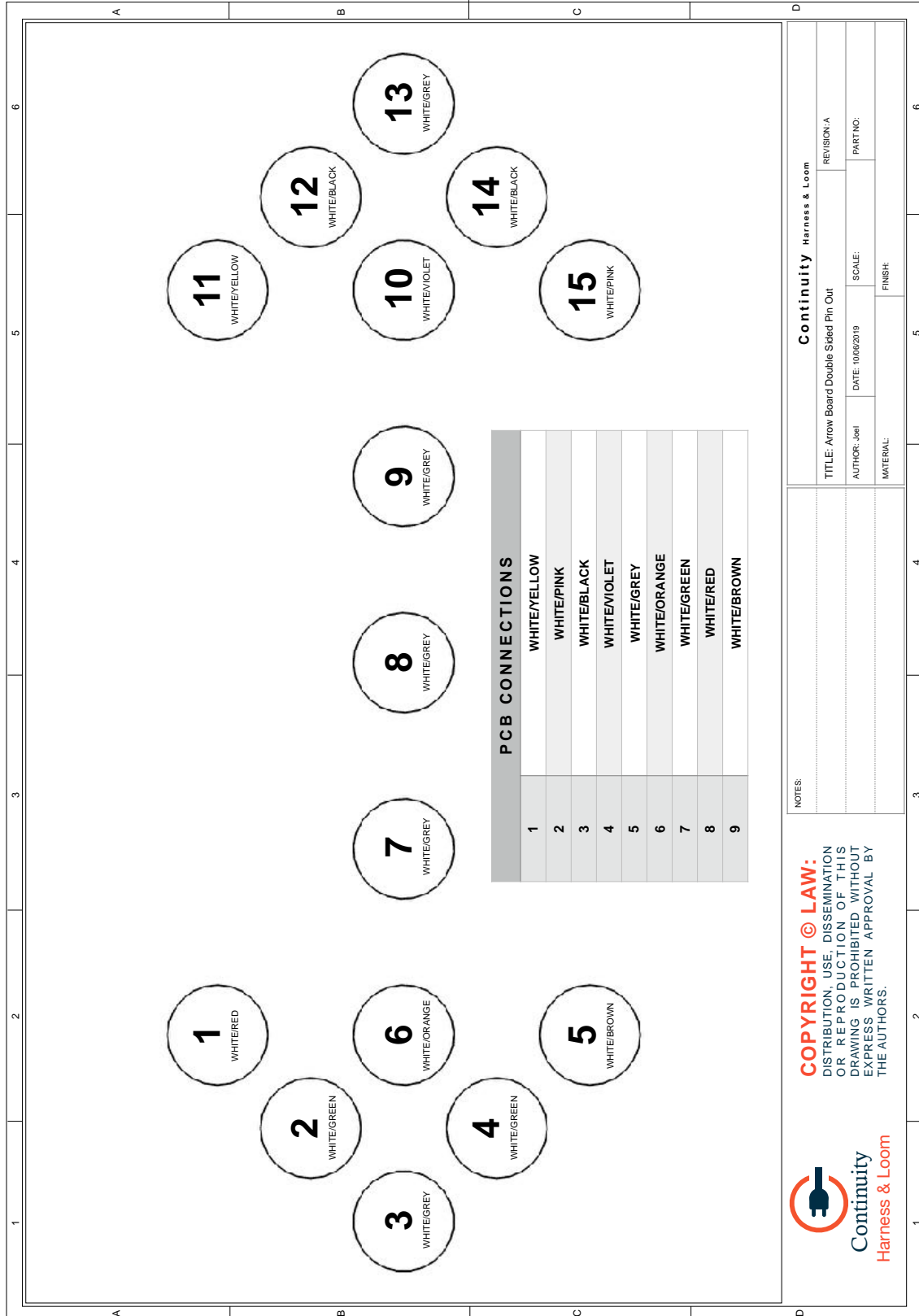
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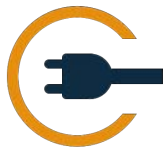
DOUBLE SIDED PIN OUT



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ARROW BOARD PIN OUTS

BOARD

ACTUATOR		
DE-DT06-2S		
1	4mm Blue	Up
2	4mm Brown	Down

PASSENGER SIDE OUTPUTS		
DE-DT04-4P-L012		
1	Red/green	Beacon
2	Red/orange	Work Light
3	Black	Earth
4	Black	Earth

DRIVER SIDE OUTPUTS		
DE-DT04-4P-L012		
1	Red/green	Beacon
2	Red/orange	Work Light
3	Black	Earth
4	Black	Earth

EXTERNAL HARNESS

WORK LIGHTS		
DE-DT04-4S		
1	Red	PWR+ to SW
2	Black	Earth to SW
3	Red/yellow	Left Work Light
4	Red/orange	Right Work Light