



MCS-8 INSTALLATION GUIDE





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1) Pre-Installation & Required Tools

1.1) Crimping Tools

CTX64 Receptacle 6A Female Pin Crimp Tool

Molex part number: 63819-3800

- <http://www.digikey.co.uk/> Part Number: 0638193800-ND
- <http://www.mouser.co.uk> Part Number: 538-63819-3800
- <http://www.ttieurope.com> Part Number: 63811-1000

Universal Molex Crimp Tool. (Can be used for all connectors)

Molex part number: 0638111000

- <http://www.digikey.co.uk/> Part Number: WM9999-ND
- <http://www.mouser.co.uk> Part Number: 538-63811-1000
- <http://uk.rs-online.com/> Part Number: 710-6499
- <http://www.ttieurope.com> Part Number: 63811-1000

1.2) Replacement Pins

Senior Fit Female - 0428150134

- <http://www.digikey.co.uk/> Part Number: 0428150134-ND
- <http://www.mouser.co.uk> Part Number: 538-42815-0134

Mini Fit Female - 50-34-8582 or 0039000211

- <http://www.digikey.co.uk/> Part Number: 0050348582-ND or WM14176CT-ND
- <http://www.mouser.co.uk> Part Number: 538-50-34-8582

Mate n' Lock Male - 350561-2

- <http://www.digikey.co.uk/> Part Number: A14299CT-ND
- <http://www.mouser.co.uk> Part Number: 571-350561-2-CT
- <http://www.ttieurope.com> Part Number: 350561-2

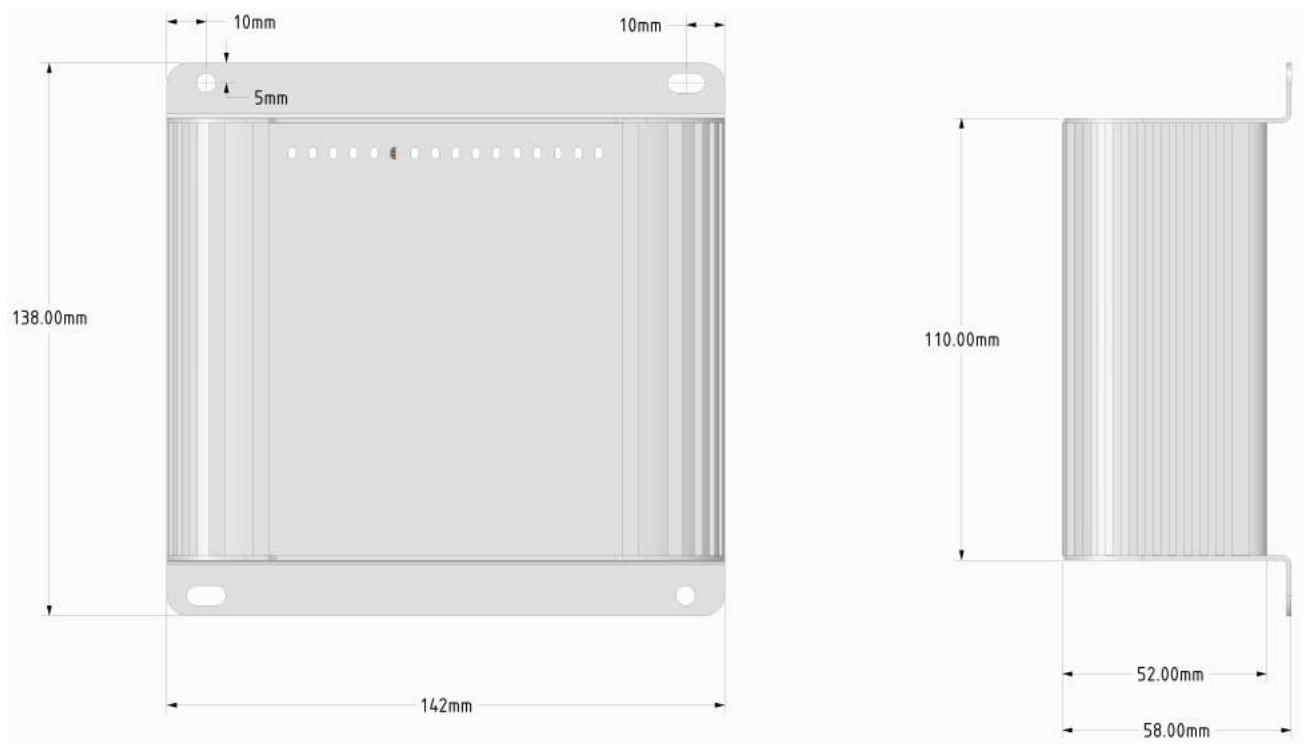
CTX64 Large Female - 1326030-4

- <http://www.digikey.co.uk/> Part Number: 1326030-4-ND
- <http://www.mouser.co.uk> Part Number: 571-1326030-4-CT
- <http://www.ttieurope.com> Part Number: 1326030-4 (Min 6900)

CTX64 Small Female - 34803-3212

- <http://www.digikey.co.uk/> Part Number: WM16246CT-ND
- <http://www.mouser.co.uk> Part Number: 538-34803-3212-CT
- <http://uk.rs-online.com/> Part Number: 842-8181
- <http://www.ttieurope.com> Part Number: 0348033212 (Min 60 000)

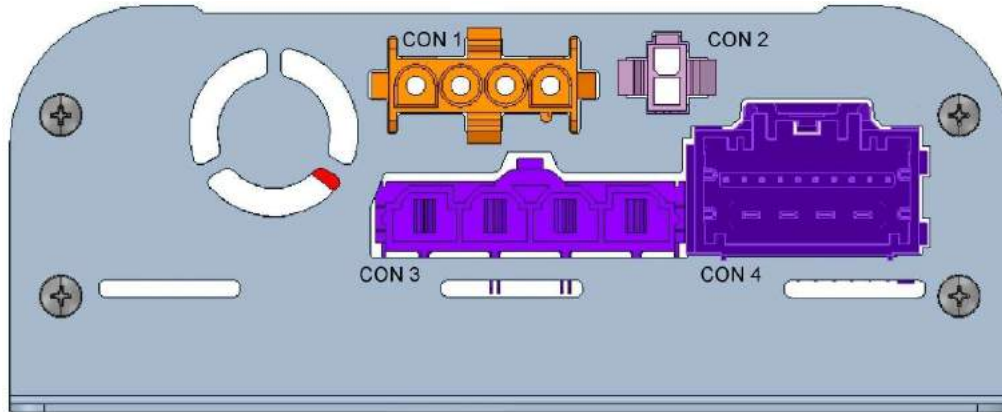
2) *Mounting*



4 x M4 holes are supplied for mounting the unit to a base panel.

3) Wiring

Power In and I/O's



3.1) *Speaker Outputs (CON1)*

Pin	Name	Function
1	Low	Low output to an 8 or 11 ohm speaker
2	Low	Low output to an 8 or 11 ohm speaker
3	High	High output to an 8 or 11 ohm speaker
4	High	High output to an 8 or 11 ohm speaker

3.1.1) *Bypass Diode Outputs (CON2)*

Pin	Name	Connector	Supply	Polarity switching	Current Max / Output
1	Bypass 1	4 pin 3	Bank B	Positive output	10 Amps
2	Bypass 2	4 pin 4	Bank A	Positive output	10 Amps

3.1.2) *Power Inputs (CON3)*

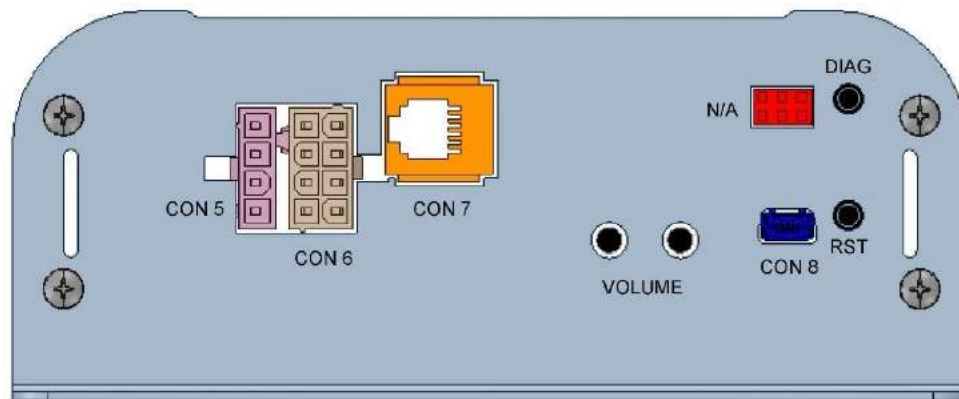
Pin	Name	Function
1	Secondary Batt Bank B	Power Supply to B-Bank Outputs
2	Primary Batt	Power supply to input voltage sense for primary battery.
3	Ground	System Ground \ Chassis
4	Secondary Batt Bank A	Power Supply to A-Bank Outputs and the Siren.



3.1.3) Auxiliary I/O's (CON4)

Pin	Name	Function	Supply
	High Power Outputs		
1	Output 1	Programmable Positive Switching Output	Secondary Batt Bank A
2	Output 2	Programmable Positive Switching Output	Primary Batt
3	Output 3	Programmable Positive Switching Output	Secondary Batt Bank B
4	Output 4	Programmable Positive Switching Output	Secondary Batt Bank B
	Low Power Outputs		
IP1	Output / Input 1	Low power output 1 or assignable input 1	Bank A
IP2	Output / Input 2	Low power output 2 or assignable input 2	Bank A
IP3	Output / Input 3	Low power output 3 or assignable input 3	Bank B
IP4	Output / Input 4	Low power output 4 or assignable input 4	Bank B
	Programmable Inputs		
IP5	Input 5	Negative or Positive assignable switching input 5	
IP6	Input 6	Negative or Positive assignable switching input 6	
IP7	Input 7	Negative or Positive assignable switching input 7	
IP8	Input 8	Negative or Positive assignable switching input 8	
IP9	Input 9	Negative or Positive assignable switching input 9	
IP10	Input 10	Negative or Positive assignable switching input 10	

Inputs and Peripherals



3.1.4) Lin Bus (Con5)

Pin	Name	Function
1	Lin	Lin Bus for automotive low speed communication modules
2	Mic In	Audio in LIN peripheral
3	Ground	
4	Supply Output	1200mA fused output supply for peripherals

3.1.5) CAN Bus (Con6)

Pin	Name	Function
1	Supply Output	1200mA fused output supply for peripherals common to LIN supply
2	CAN 1 High	Use CAN1 with MCS System Handsets and Expansion Modules
3	CAN 1 Low	
4	Radio Audio	Radio re-broadcast audio
5	Ground	
6	CAN 2 High	Use CAN2 with Vehicle CAN Only.
7	CAN 2 Low	
8	Mic in	Audio in from handset

NOTE: For compatibility reasons, adapters that plug into the MCS-8 CAN Bus (Con6) Connector are typically 6 way. These are designed to fit into the 8 way connector.

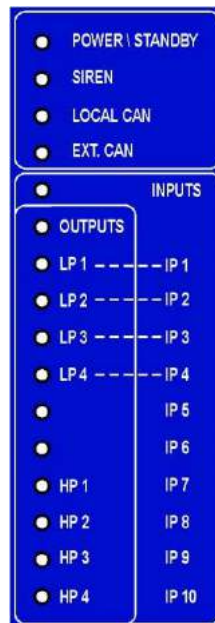
3.1.6) RS485 (Con7)

Pin	Name	Function	
1	Microphone Input		
2	Ground	Common	
3	B	RS485 Data	
4	A	RS485 Data	

5	12VDC	12V Supply Output	1000mA Max.
6	PTT Sw	PTT Active Low.	

3.1.7) *USB (Con8)*

4) **Diagnostics**



POWER / STANDBY	Red (Steady): Device in use, normal power mode. Red (Flashing): Over Temperature. Amber: Device idle, ready for low power mode. Steady Green: Shutting down. Green Pulse: Standby / Low Power Mode
SIREN	Off: Siren has not been configured in software Slow Pulsing Green: Siren in in low power standby mode (Not enabled) Fast Pulsing Green: Siren is internally powered and ready to operate Green: Siren output is operating (speaker is sounding) Red: Over-current Safety – Siren system disabled (reset required) Amber: Low voltage dropout (the siren is disabled because supply is too low)
LOCAL CAN	Off: No local CAN devices in use Green: All local CAN devices ok Red: One or more local CAN devices faulty
EXT. CAN	Off: Vehicle CAN not in use Green: Vehicle CAN detected Red: Vehicle CAN not detected
INPUTS	Indicates the state of any input 1 through 10
OUTPUTS	Indicates the state of any output LP1-LP4 and HP1-HP4

5) Volume Setting

To set the volume levels for the MCS-8, follow the following procedure:

- 5.1) Left volume knob is for Mic in and increases volume in a clockwise direction
- 5.2) Right volume knob is for Radio re-broadcast and increases the volume in a clockwise direction.
- 5.3) Knobs can be removed once volume has been set to prevent tampering.
- 5.4) Knobs are on the same side as the CAN and LIN Bus connectors.

6) Installation Requirements

- 6.1) Both the Bank A and Bank B Supply lines MUST be protected by a fuse, rated 40 Amp or less, preferably at (or near to) the battery terminal.
- 6.2) If the primary sense input is used, the input MUST be protected by a fuse, rated 20A or less, preferably at (or near to) the primary battery terminal.
- 6.3) DO NOT obstruct fan vents along the top, side or under surfaces of the MCS-8. Do not install any equipment on top or underneath the MCS-8.

The above installation requirement must be followed for safe operating and extended product lifetime

7) Version History

Current Word Revision: 11

<i>Version</i>	<i>Word Revision</i>	<i>Changes</i>	<i>Responsible Person(s)</i>	<i>Date</i>
1V0		Initial document release	SW	16 Oct 2017
1V1	5	Updates to revision system & minor corrections.	GH	17 Oct 2017
1V2	10	Cover Image Updated	GH	18 Oct 2017
1V3	11	Corrected output supply notes. Renamed ignition sense primary. Noted CAN 6 Way / 8Way connection.	GH	31 Aug 2018

