

# **SIREN INSTALLATION GUIDE**

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## 1) Specification

### 1.1) **Absolute Maximum Ratings**

- Supply Voltage: 34 Volts DC.
- Supply Current: 15 Amps per power bank.
- Standby Current: Standby Switch deactivated
  - Typical: 4 milliamps. (@13.8VDC, no peripherals attached)
- Standby Current: Standby Switch activated
  - Typical: 22 milliamps. (@13.8VDC, no peripherals attached)
  - Max: 35 milliamps. (@13.8VDC, no peripherals attached)
- Standby Temperature: -20 Deg C – 70 Dec C
- Operating Temperature: -20 Deg C – 65 Deg C

### 1.2) **Power**

- 1 x 40Amp DC pins on pluggable connector.
  - This **MUST** be fused with a 15 Amp fuse.
- 1 x Ground / chassis connections.
  - The ground chassis line should be rated to handle 15Amps or more.

### 1.3) **Digital Inputs**

- 3 x Positive/Negative Switched
- 2 x Positive Switched (HRT, Airhorn)
- 2 x Negative Switched (HRT, Airhorn)

### 1.4) **Analog Monitoring**

- Incoming system voltage sense.
- Internal temperature monitor.
- Siren system current monitor.
- System has cooling using internal fan.

### 1.5) **Outputs**

- 3 x High or Low switching 500mAmp rated transistors with internal resettable fuse protection.
- 100W siren speaker output 8 or 11 ohm selectable.

### 1.6) **Communication**

- 1 x CAN Bus 2.0

## 2) Installation Requirements

2.1) Supply lines **MUST** be protected with 15 Amp fuses, preferably at (or near to) the battery terminal.

2.2) **DO NOT** obstruct fan vents along the top, side surfaces of the MCS-SE. Do not install any equipment on top or underneath the MCS-SE.

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

### 3) System Description

#### 3.1) **Siren System**

The siren module supports 100W (8 Ohm or 11 Ohm) output speakers.

To Enable the siren system, turn the Standby switch to Active high at the Operation Switch Input. To activate the siren either await a signal via the CAN Bus from the MCS32, CVS012 or use the HRT or Airhorn inputs on the siren.

##### 3.1.1) **Low Current Outputs.**

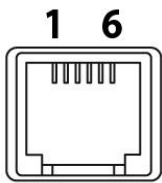
There are 3 positive or negative switching outputs (software selectable). Each output is rated to a maximum of 500mAmps and are named as follows : Aux 2 output (used to activate a relay for other functions in the vehicle), Aux 3 Output (used to activate a relay for other functions in the vehicle), Data Out / Aux1 (used to send a confirmation to a data logger that the siren is operating or activate a relay for other functions in the vehicle ).

##### 3.1.3) **CAN Bus Serial Interface.**

The MCS-SE has one CAN2.0 full speed interface. This interface is designated for optional local control. Consult with your installer for more information regarding these options.

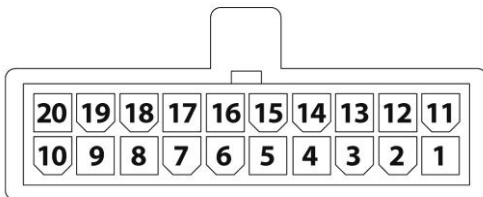
## 4) Wiring and Connections

### 4.1.3) **Mic Handheld Control Data Connector.** (not used when connected to MCS32)



Pin	Name	Function		
1(Left)	CAN-High	CAN Data		
2	Microphone Input			
3	12-24VDC	12-24V Supply	Output	250mA Max.
4	Ground	Common		
5	PTT Switch	PTT Active low		
6(Right)	CAN-Low	CAN Data		

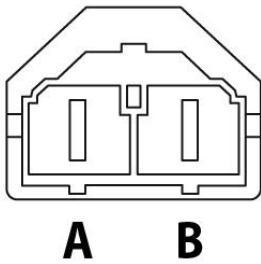
### 4.1.3) **System Bus Connector.**



Pin	Name	Function	
1	CAN Data High	Data	
2	CAN Data Low	Data	
3	Airhorn Negative	Input	Active Low
4	Input 2	Input	Positive or Negative switching
5	Input 3	Input	Positive or Negative switching
6	Radio In 1a	Input	Needs to be used with one of the spare inputs
7	Ground		
8	Auxillary Output 2	Output	500mA MAX Positive or Negative switching
9	11 Ohm Output	Output	
10	8 Ohm Output	Output	
11	Operation Switch	Input	Active High
12	HRT Negative	Input	Active low
13	Input 1	Input	Positive or Negative switching
14	Airhorn Positive	Input	Active High
15	HRT Positive	Input	Active High
16	Radio In 1b	Input	Needs to be used with one of the spare inputs
17	Data out / Auxillary Output 1	Output	500mA MAX Positive or Negative switching
18	Auxillary Output 3	Output	500mA MAX Positive or Negative switching
19	11 Ohm Output	Output	
20	8 Ohm Output	Output	

4.1.3)

4.1.3) **Power Connector.**



Pin	Name	Function		
A	Ground			
B	12V or 24 VDC	Input	15A MAX	

Dutch tone sirens

DIP1	DIP2	DIP3	DIP4	Mode
OFF	OFF	OFF	OFF	CAN Address 0 (Default)
OFF	OFF	OFF	ON	CAN Address 1
OFF	OFF	ON	OFF	Stand Alone - 4 UK Tones Wail - Yelp - 2Tone - Pulsar
OFF	OFF	ON	ON	Stand Alone - 2 UK Tones Wail - Yelp
OFF	ON	OFF	OFF	Dutch Two Tone.

- 12V and 24V Auto detect. (Determined when activating the siren tone - If supply is above 18V, 24V mode is used.
- Operation Input - Apply Positive input to enable siren. Remove for low power
- Positive *OR* Negative HRT - Single Tap to start, tap to scroll, double tap to deactivate.
- Positive *OR* Negative input Air horn - Standard Operation.
- Input 1 - Enables Radio/Broadcast Mode.
- Input 2 - Enables City Mode. (12V ONLY)
- Aux Output 1 - Data Output - Positive output when siren current is valid.
- Aux Output 2 - Light bar Enable Output - Positive output when siren sounding.

LED State	Description
Off	No Power
Heartbeat (2 Short Pulses every 5 Seconds)	Powered, Low Power Mode / Standby
On	Armed / Active
Pulsing On (Mostly Off, with short flash on)	Over Current Protection
Pulsing Off (Mostly On, with short flash off)	Under Voltage Dropout

The CAN side of the firmware (which we use with the CAN Handsets / ULS / etc) is unchanged. The stand-alone operation is now as per your specification  
This will now be the default version (V1.10) for the MCS-SE coming to the UK.