

Emtron ED10M Pinout

Pinout
HW Rev 1.3

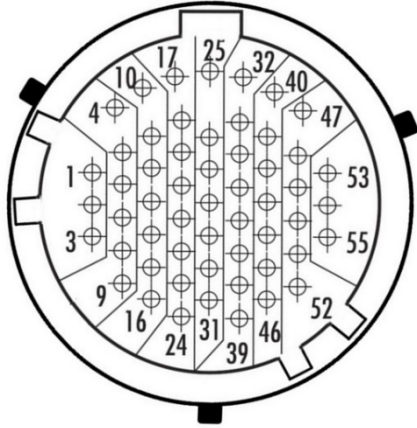
Date: Feb 2022 (subject to change before launch)



EMtron
Australia

Connector AD0C17Z35PN

(5.0A continuous current. Shell size 17, 55 Pin. 22 AWG)



Looking into Connector

Pin	Channel Name	Pin	Channel Name
1	14V Switched Supply	29	CAN 3 Low
2	Ground	30	CAN 4 High
3	Gigabit Ethernet Shield	31	CAN 4 Low
4	12V Regulated Output	32	Analog Input Channel 5
5	14V Backup Supply	33	Analog Input Channel 6
6	Gigabit Ethernet +Tx/Rx Pair 1	34	Analog Input Channel 7
7	Gigabit Ethernet -Tx/Rx Pair 1	35	Analog Input Channel 8
8	Gigabit Ethernet +Tx/Rx Pair 2	36	Headphone LH
9	Gigabit Ethernet -Tx/Rx Pair 2	37	Headphone RH
10	Sensor Supply: 5.0V	38	Mic Input LH
11	Sensor Supply: 5.0V	39	Mic Input RH
12	Sensor Supply: 5.0V	40	RS232 Transmit Output
13	Gigabit Ethernet +Tx/Rx Pair 3	41	RS232 Receive Input
14	Gigabit Ethernet -Tx/Rx Pair 3	42	RS232 0V Reference
15	Gigabit Ethernet +Tx/Rx Pair 4	43	Video Input 1
16	Gigabit Ethernet -Tx/Rx Pair 4	44	Video Input 2
17	Analog Input Channel 1	45	Video Input 3
18	Analog Input Channel 2	46	Mic 0V Reference
19	Analog Input Channel 3	47	Speed Input 1
20	Analog Input Channel 4	48	Speed Input 2
21	CAN 1 High	49	Speed Input 3
22	CAN 1 Low	50	Speed Input 4
23	CAN 2 High	51	Video Input 4
24	CAN 2 Low	52	Video 0V Reference
25	Analog Input 0V Reference	53	LIN Bus
26	Analog Input 0V Reference	54	Speed 0V Reference
27	Headphone 0V Reference	55	ED10 Recovery
28	CAN 3 High		

Function Pin Assignment

Power:

Pin	Channel Name
1	14V Supply +
2	Ground -
5	14V Backup Supply +

Sensor Supply :

Pin	Channel Name
10	Sensor Supply: 5.0V
11	Sensor Supply: 5.0V
12	Sensor Supply: 5.0V
4	12V Regulated Output

Gigabit Ethernet Communications T-568A Standard :

Emtron Pin	RJ45 Pin T-568A	Description	Cat5e Wire Colour
3	-----	Ethernet Shield	-----
6	1	Ethernet Tx/Rx + Pair 1	Green/White
7	2	Ethernet Tx/Rx - Pair 1	Green
8	3	Ethernet Tx/Rx + Pair 2	Orange/White
9	6	Ethernet Tx/Rx - Pair 2	Orange
13	4	Ethernet Tx/Rx + Pair 3	Blue
14	5	Ethernet Tx/Rx - Pair 3	Blue/White
15	7	Ethernet Tx/Rx + Pair 4	Brown/White
16	8	Ethernet Tx/Rx - Pair 4	Brown

NOTE: T-568B RJ45 standard has some colours in different locations

Gigabit Ethernet Communications T-568B Standard :

Emtron Pin	RJ45 Pin T-568B	Description	Cat5e Wire Colour
3	-----	Ethernet Shield	-----
6	3	Ethernet Tx/Rx + Pair 1	Green/White
7	6	Ethernet Tx/Rx - Pair 1	Green
8	1	Ethernet Tx/Rx + Pair 2	Orange/White
9	2	Ethernet Tx/Rx - Pair 2	Orange
13	4	Ethernet Tx/Rx + Pair 3	Blue
14	5	Ethernet Tx/Rx - Pair 3	Blue/White
15	7	Ethernet Tx/Rx + Pair 4	Brown/White
16	8	Ethernet Tx/Rx - Pair 4	Brown

CAN Communications :

Pin	Channel Name
21	CAN 1 High
22	CAN 1 Low
23	CAN 2 High
24	CAN 2 Low
28	CAN 3 High
29	CAN 3 Low
30	CAN 4 High
31	CAN 4 Low

RS232/LIN Communications :

Pin	Channel Name
40	RS232 Transmit Output
41	RS232 Receive Input
42	RS232 0V Reference
53	LIN Bus

Analog Inputs :

Pin	Channel Name
17	Analog Input Channel 1
18	Analog Input Channel 2
19	Analog Input Channel 3
20	Analog Input Channel 4
32	Analog Input Channel 5
33	Analog Input Channel 6
34	Analog Input Channel 7
35	Analog Input Channel 8
25	Analog Input 0V Reference
26	Analog Input 0V Reference

Speed Inputs :

Pin	Channel Name
47	Speed Input 1
48	Speed Input 2
49	Speed Input 3
50	Speed Input 4
54	Speed 0V Reference

Video Inputs :

Pin	Channel Name
43	Video Input 1
44	Video Input 2
45	Video Input 3
51	Video Input 4
52	Video 0V Reference

Audio :

Pin	Channel Name
36	Headphone Output LH
37	Headphone Output RH
27	Headphone 0V Reference
38	Mic Input LH
39	Mic Input RH
46	Mic 0V Reference

Important Notes

14V Switched Supply (Pin 1)

This is a switched 14V supply . Constant power should not be supplied on this pin.

14V Backup Supply (Pin 5)

A Constant 14V supply should be wired to this pin. When the power is removed from pin "14V Switched Supply" the ED10 automatically switches to the " 14V Backup Supply" to keep itself powered. This will allow the ED10 to complete critical tasks before shutting itself down (for example data logging storage).

NOTE: With a "14V Backup Supply" is wired to the ED10 draws no additional current when the device is OFF.

Analog Sensor 0V Reference (Pin 25, 26)

As the name indicates these should be connected directly to the 0V (Ground) pin on any low current analog sensor, for example Pressure or Temperature.

- **DO NOT** connect these pins directly to the Engine Block or ED10 Ground. These are dedicated and specialised ground outputs for all analog channels and should be connected directly to the sensor.
- **DO NOT** connect speed-based sensors to this ground, use the Speed 0V Reference Pin 51.

Mic 0V Reference (Pin 46)

This is a dedicated 0V reference for the microphone. DO NOT share this pin !!

Video Input Config

x1 RGB Input (Component) - Y input on AIN1; Pb input on AIN2, Pr input on AIN3)
x2 S-Video - Y input on AIN1; C input on AIN2), (Y input on AIN3; C input on AIN4)

RS232

Pin 40 is the ED10 RS232 Transmit Output. As the name suggests this is an output and should be connect to the Receive Input of the wired external device.

Pin 41 is the ED10 RS232 Receive Input. As the name suggests this is an input and should be connect to the Transmit Output of the wired external device.

ED10 Recovery (Pin 55)

In the unlikely even the SOM becomes bricked after a software update, grounding this pin at power-on allows the device to be recovered by loading software through the USB Port.(Normally this would be done over Ethernet)