



EVIC Graphic Display Unit



Overview

The Andromeda EVIC (Electric Vehicle Interface Controller) graphical interface displays critical information from both the motor controller and battery management systems. The powder coated aluminum EVIC can gather, interpret, and monitor EV system data which it then graphically represents for users to easily understand.

Features

Display Size	Diagonal 7.0" Active area (mm) 152.4(H)×91.4 (V)
Display Resolution	800 x 480 WVGA
Color Depth	16-bit
Brightness	300 nits
Input Voltage	9-36 VDC
CAN Channels	1

	Configurable baud rates 125, 250, 500 kbps and 1Mbps
CAN Isolation	2.5 kV RMS (ISO1050DUB)
Digital I/O	8, 18V tolerant inputs 8, 2A sinking outputs
Analog Inputs	5, 12-bit resolution
Graphics	Custom boot screen logos and skin graphics
Development Environment	Studio Interface Kit (SIK) software tool for creating and updating HMI skin graphics

Specifications

Operating	
Working Voltage Limits:	9 - 24 VDC
Input Protection:	Input protected against reverse connection of supply. The nominal current draw of 300 mA @ 12 VDC.
Output Protection	
Reverse Polarity:	SAE J1455 2006 ed.
Inductive Switching:	SAE J1113-11 2006 ed. Test Pulse 1
ESD:	SAE J1113-13 2004 e. Powered and Non-Powered.
CAN Interface	
Protocol:	CAN 2.0B
Isolation:	2.5kV VRMS Isolation (ISO1050DUB)
Baud Rates Supported:	125, 250, 500 kbps and 1 Mbps
Digital Interfaces	
Inputs:	18V tolerant digital inputs, x8

Outputs:	Low-side switching outputs up to 2A, x8
Analog Interfaces	
Inputs:	0-5V 12-bit resolution analog inputs, x5

Mechanical

Operating Environment	
Operating Temperature:	-20°C to 70°C
Non-Operating Temperature:	-30° to +80°C
Humidity:	95%(non-condensing) at 40°C and 2% at 40°C
Ingress of Dust and Water:	IP54
Performance	
Vibration, Random:	designed to meet SAE J1211 standards
Shock:	designed to meet SAE J1211 standards
Weight	
Weight:	1.4 kg

Connectors

EVIC is equipped with the following 3 interface connectors as shown below.



J1- 20-pin Main Connector - Power, CAN and Digital Inputs

Housing: Molex part number [31408-1200](#)

Terminals: Molex part number [1393366-1](#)



J2 & J3 - 12-pin Secondary Connectors - J2 Analog Inputs and J3 Digital Outputs

Housing: Molex part number [31408-1120](#)

Terminals: Molex part number [1393367-1](#)



J4 - Mini-B USB Connector - Programming cable used for SIK

The cable is provided with the purchase of EVIC.



Harness Connections

J1 - MAIN CONNECTOR PINOUT				
PIN	Name	Type	What to Connect	Maximum Rating
1	+12V POWER	Power	Constant power source	+32V
2	GND	Power	Power source return	-
3	IGN	Power	Switch power	+32V
4	CAN_HIGH	Comm	CAN High	-
5	CAN_LOW	Comm	CAN Low	-
6	DIN 7	Digital Input	Switches, buttons	+18V
7	DIN 6	Digital Input	Switches, buttons	+18V
8	DIN 1	Digital Input	Switches, buttons	+18V
9	DIN 2	Digital Input	Switches, buttons	+18V
10	DIN 3	Digital Input	Switches, buttons	+18V
11	DIN 4	Digital Input	Switches, buttons	+18V
12	DIN 5	Digital Input	Switches, buttons	+18V

J1 - MAIN CONNECTOR PINOUT

PIN	Name	Type	What to Connect	Maximum Rating
13	RXD_EXT	Comm	RS-232 (diag only)	
14	TXD_EXT	Comm	RS-232 (diag only)	
15	RTS_EXT	Comm	RS-232 (diag only)	-
16	CTS_EXT	Comm	RS-232 (diag only)	
17	DIN 8	Digital Input	Switches, buttons	+18V
18	AIN_5_Signal	Analog Input	Sensor signal	+5V
19	BOOT 1	Boot Mode	Short Pins 19 and 20 to place EVIC into boot mode	
20	BOOT 2	Boot Mode	Short Pins 19 and 20 to place EVIC into boot mode	

J2 - ANALOG INPUT CONNECTOR PINOUT

Pin	Name	Type	What to Connect	Rating
1	AIN_1_Signal	Analog Input	Sensor signal	+5V
2	AIN_1_Reference	Power	5V power output	-
3	AIN_1_Ground	Power	5V reference ground	-
4	AIN_2_Signal	Analog Input	Sensor signal	+5V
5	AIN_2_Reference	Power	5V power output	-
6	AIN_2_Reference	Power	5V reference ground	-
7	AIN_3_Signal	Analog Input	Sensor signal	+5V
8	AIN_3_Reference	Power	5V power output	-
9	AIN_3_Reference	Power	5V reference ground	-
10	AIN_4_Signal	Analog Input	Sensor signal	+5V
11	AIN_4_Reference	Power	5V power output	-

12	AIN_4_Reference	Power	5V reference ground	-
J3 - DIGITAL OUTPUT CONNECTOR PINOUT				
Pin	Name	Type	What to Connect	Rating
1	DOUT_1	Digital Output	LED's, Relays, Buzzers	2A
2	DOUT_2	Digital Output	LED's, Relays, Buzzers	2A
3	DOUT_3	Digital Output	LED's, Relays, Buzzers	2A
4	DOUT_4	Digital Output	LED's, Relays, Buzzers	2A
5	DOUT_5	Digital Output	LED's, Relays, Buzzers	2A
6	DOUT_6	Digital Output	LED's, Relays, Buzzers	2A
7	DOUT_7	Digital Output	LED's, Relays, Buzzers	2A
8	DOUT_8	Digital Output	LED's, Relays, Buzzers	2A
9	GND	Power	Power source return	-
10	GND	Power	Power source return	-
11	GND	Power	Power source return	-
12	GND	Power	Power source return	-

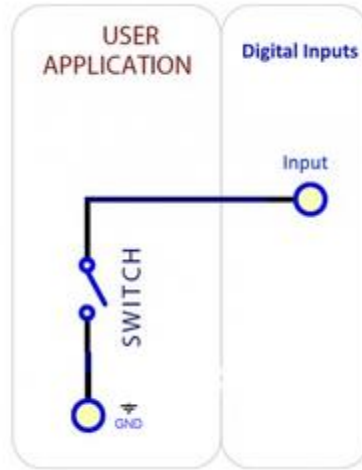
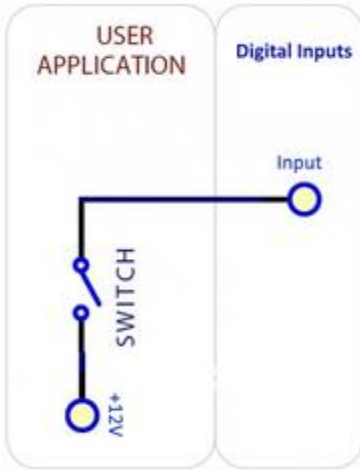
Interfaces


Digital Inputs

EVIC is equipped with **8 digital inputs** that can determine input states from switches or buttons. Digital inputs **1 through 7** are triggered by sourcing **+12V**. Digital input 8 is triggered by sinking to **GND**.

DIN 1 - 7

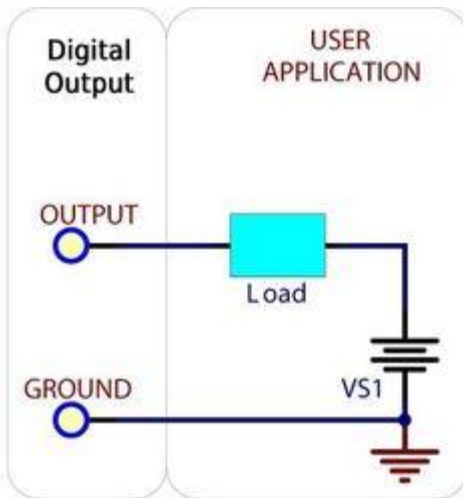
DIN 8



 If you have not correctly mapped the digital inputs to skin graphic labels or images, then nothing will occur when switching these pins.

Digital Outputs

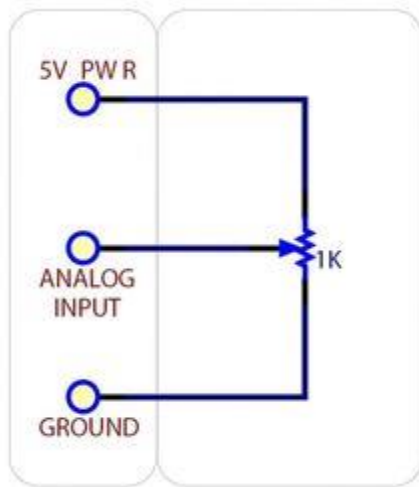
EVIC is equipped with **8 digital outputs** that are low-side switches. They are designed for a variety of applications including LEDs, external relays or buzzers.



Analog Inputs

EVIC is equipped with **5 analog inputs** (**1** on the main connector, **4** on the analog input connector) at **12-bit resolution**. They can be used to read measurements from many sensors such as temperature, potentiometer or brake transducers. There are reference 5V and ground outputs provided on the analog input connector to supply power to sensors if necessary.

AIN 1 - 5



CAN Channel

EVIC can operate as a single node or as a multi-node on the CAN bus network.

EVIC can be configured as either **terminated** or **non-terminated** on the network. EVIC is shipped terminated. You can un-terminate by taking apart EVIC's back cover and removing an internal jumper (**P2**) on the board.

Baud Rate

EVIC is configured by default at **250 kbps** baud rate. EVIC's configurable baud rates are **125, 250, 500** or **1000 kbps**.

Note: If data does not appear or is displayed intermittently, please verify CAN baud rates are set correctly for all components on the network.