

## Viridian EV – EPC 2.0 Plus Datasheet

### Part number: EPC20P10

DIN rail mounted control module for IEC 61851 compatible EV charge points. Key features include RCM support, PEN Loss detection and MODBUS over RS485, helping charge point manufacturers and installers meet regulations in a cost-effective way.

Configurable features are selected on a 10 way DIP switch accessed by removing the lid/top.



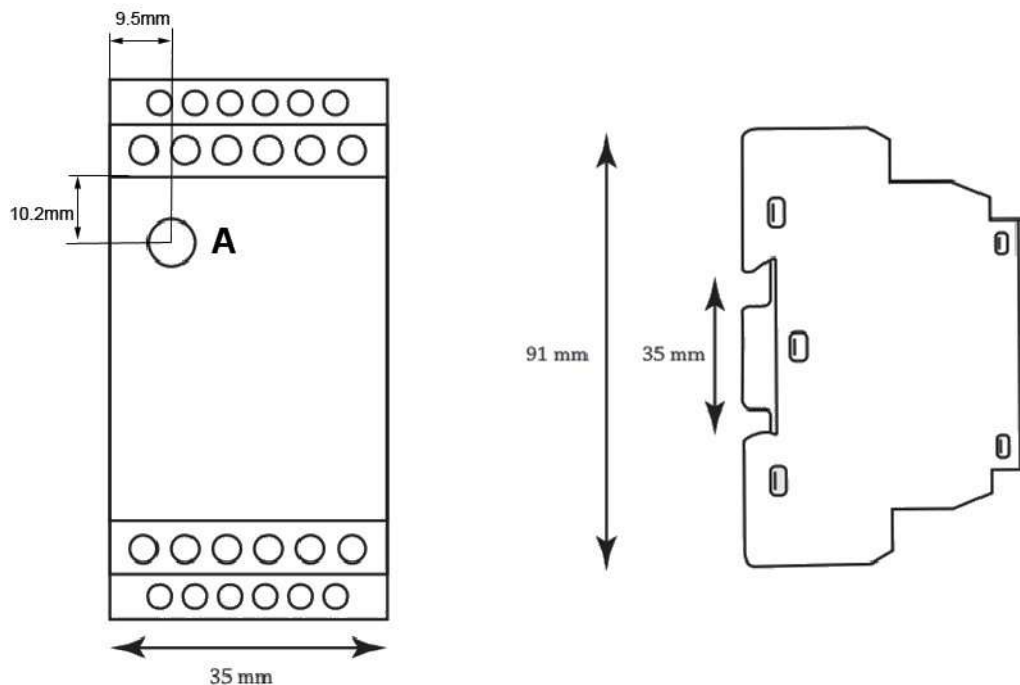
### Electrical Properties

<b>Power Supply</b>	207 -257 V @ 50 Hz AC
<b>Charging Mode</b>	1 x mode 3 according to IEC61851-1 via IEC62196-2 or SAE J1172 (socket or tethered cable outlets)
<b>Connections</b>	<ul style="list-style-type: none"> <li>• 2 x 240V relays (EV contactor &amp; aux contactor)</li> <li>• External RGB LED output connector (common anode)</li> <li>• Lock outputs for sockets (solenoid or motor + feedback)</li> <li>• RCM (6mA DC protection device) – optional extra</li> <li>• Operating current modifier (IC)</li> <li>• Control &amp; Proximity Pilot for vehicle interfacing</li> <li>• RS485 connections for MODBUS</li> </ul>
<b>Features/Config</b>	<ul style="list-style-type: none"> <li>• Configurable PEN Loss (negates need for earth rod)</li> <li>• Supply Optimisation – Split CT optional extra</li> <li>• MODBUS over RS485 – register map available</li> <li>• Integrated status LED &amp; external LED outputs</li> <li>• Configurable for Tethered or Socket outlets</li> <li>• Configurable for 16A or 32A max operating currents</li> <li>• Configurable for solenoid or motor locking systems</li> <li>• Configurable for lock feedback or no lock feedback</li> <li>• Configurable lock engaged polarity for different motor locking systems</li> <li>• Support/Configurable for RCM or No RCM - RCM14-01</li> <li>• Adjustable charging current up to system maximum</li> </ul>

### Safety / Compliance

<b>PEN Loss / Earth fault</b>	Uses voltage measurements to interrupt supply and make equipment safe in event of PEN failure in supply network
<b>DC Leakage</b>	Supports Western Automation RCM14-01 to detect DC currents of 6mA or greater (optional supplied extra)
<b>Compliance</b>	<ul style="list-style-type: none"> <li>• CE certified</li> <li>• Designed to comply with EN 61851-1 and IEC 61851-21-2</li> </ul>

### Mechanical Properties



<b>Operating Temperature</b>	-25 to 50 °C
<b>Mounting</b>	Standard DIN Rail mount (35mm)
<b>LED Position</b>	'A' on diagram above

### Terminal Assignment

TERMINAL	DESCRIPTION
L (LIVE)	This is where the AC 'live' or 'line' connection is made (207-257 V @ 50 Hz AC)
N (NEUTRAL)	This is where the AC 'neutral' connection is made (207-257 V @ 50 Hz AC)
0V (PE)	This is where the Protective Earth and 0V are connected (i.e RCM & IC)
LK+	Configuration dependant; provides drive current either continuously to energise solenoid lock or for 500ms to engage motorised locks, changing to pulsed 500ms intervals until the lock is engaged. (See LK FB)  Rating: 12V 300mA
LK-	Configuration dependant; provides return path for LK+ solenoid drive current or for 500ms to disengage motorised locks, changing to pulsed 500ms intervals until the lock is disengaged. (See LK FB )  Rating: 12V 300mA
LK FB	If Lock Feedback selected, Reads lock feedback for motorised locks
NC	Not Connected / Not used
COM	Relay 1 & 2 (common) live from integrated electrical protection or mains terminals
P1	Relay 1 to coil on the EV contactor
P2	Relay 2 to coil on the aux contactor (if used)
PP (PROXIMITY PILOT)	This connects to the PP conductor on the IEC61851 EVSE connector
CP (CONTROL PILOT)	This connects to the CP conductor on the IEC61851/J1772 EVSE connector
IC (INPUT CURRENT)	This connects to one side of the IC resistor, switch, or variable resistor (the other side to 0V)
12V	12V supply to provide power to RCM
FLT	Connects to RCM 'Fault Out', reads fault signal from RCM
TST	Connects to RCM 'Test', sends test signal to RCM before each charging session
CT1	Connection for current transformer 1; measures earth current for PEN Loss detection (or base load for supply optimisation in EPC 2.0 Plus models ) – see manual
CT2	Connection for the other side of current transformer 1
CT3	Connection for current transformer 2; measures EVSE current draw in EPC 2.0 Plus / Pro models – see manual
CT4	Connection for the other side of current transformer 2
RSA	RS485 connection available in EPC 2.0 Plus and Pro models
RSB	RS485 connection available in EPC 2.0 Plus and Pro models
RSG	RS485 ground connection available in EPC 2.0 Plus and Pro models

### External LED Connector

An external RGB LED can be driven by the EPC 2.0, a male JST connector is fitted under the lid and the wiring harness can be fed out the LED hole (once the light pipe has been removed).

It is 0V active with common 12V - (Common Anode) – with nominal 3 x 30mA available We can supply a suitable LED as optional extra.

A wiring harness with connector on one end can be supplied with the EPC 2.0 as an optional extra that can be cut to length by user and connected to their chosen LED or the LED we can supply.

Please enquire about the above if they're of interest.