EAPC Product Data Sheet by Unipart Rail





SERVING THE WORLD'S RAILWAYS

Functional Description

The purpose of the Unipart Rail Electronic Automatic Phase Control (APC) Receiver is to detect a trackside APC magnet on the entry or exit of an overhead electric supply neutral zone such that a vehicle can pass through the zone with its main circuit breaker in the open position. The receiver is usually attached to the vehicle bogie and is suitable for use on both multiple units and locomotives. The Electronic APC Receiver is fully encapsulated and contains no moving parts. The receiver has two mutually exclusive 110 Volt DC outputs designated 'North' and 'South' (or 'Normal' and 'Operate'). An active North output is the 'Normal' running condition of the unit. The presence of a trackside magnet causes the APC Receiver to assume its 'Operate' state with an active South output. A reset signal generated by the vehicle returns the receiver to the 'Normal' state (active North output).

Environmental Standards

The APC Receiver complies/operates within the following environmental factors and standards in the table below;

Temperature	-25°C to +75°C
Watertightness	IP67 & Internal testing to customer' requirements of IP68
Transient Toleration	BS EN 61000-4-4
Surge Toleration	BS EN 50155
Vibration & Shock	BS EN 61373
ЕМС	BS EN 50121-3-2
Marking	BS EN 60950-1
Overvoltages	BS EN 50155
Electrical Risks	BS EN 60950-1
Fire Protection	BS EN 6853
Temperature Rise	BS EN 60950-1
Dielectric Properties	BS EN 60950-1

Electrical Connections

The Electronic APC receiver is supplied with an integral cable assembly and can be fitted with a number of electrical connector options as per list below;

- I. Harting Han 6E series Connector
- 2. 19 Way MIL-C-5015 Connector
- 3. 6 Way MIL-C-5015 Connector
- 4. Integral Marechal Connector
- 5. Hard Wired
- 6. 24 Way Tyco Connector
- 7. 10 Way MIL-C-5015 Connector

These are the connectors we currently use on our APC Receiver although the unit can be adapted to accommodate different connectors on customer request.

Operating Parameters (Based on a standard APC receiver)

Power Supply110 Volts dc Nominal acceptance range 77 to 137 Volts. Maximum load 200mA

Rese Input I

Must reset at 28 Volts dc Must not reset at 18 Volts dc Must withstand 40 Volts dc indefinitely Maximum Load 20mA resistive

Reset Input 2

Must reset at 77 Volts dc Must not reset at 49 Volts dc Must withstand 137 Volts dc indefinitely Maximum Load 3mA resistive

Normal (North) Output

Within 5% of supply range 77 to 137 Volts. Maximum Load 100mA Typical Load 5 Watt Relay Coil with time constant of <40mS.

Operate (South) Output

Within 5% of supply range 77 to 137 Volts. Maximum Load 100mA Typical Load 5 Watt Relay Coil with time constant of <40mS.

Magnetic

Shall be operated by a magnetic flux density of 3.1mT, presented at 137mm above rail level.

Shall not be operated by a magnetic flux density of < 1.5mT, presented at 137mm above rail level.

The nominal operating value for the receiver will be 2.0mT +/- 0.5mT

ARL of the receiver 178mm – 222mm

Unipart Rail Jupiter Building, First Point, Balby Carr Bank, Doncaster DN4 5JQ Tel: +44 (0) 1302 731400 email: enquiries@unipartrail.com



Visit **www.unipartrail.com** for details of our Worldwide Regional Offices