

Technical Specifications

Approved to ASTA Standard 138
BS EN 60 439-1
BS EN 60 439-2

Electrak is approved to ISO9001:2000
Assessed Quality Assurance Certificate No. 10270.

Electrak fully complies with the requirements of
BS 7671 : 2001 IEE Wiring Regulations.

607 Installations

All unfused tap-offs comply with section 607 without the need for additional earth conductors. Section 607-02-04 (ii) states "a single copper protective conductor having a cross-sectional area of not less than 4mm², complying with the requirements of Regulations 543-02 and 543-03, the protective conductor being enclosed to provide additional protection against mechanical damage, for example, within a flexible conduit."

For 607 installations requiring fused tap-offs, a 607 compliant tap-off must be used. Normally fused tap-offs incorporate 1.5mm² conductors, however in the fused 607 tap-offs, the 1.5mm² earth conductor is replaced with a 4mm² conductor and therefore complies with Section 607-02-04 (ii).

Durability

Electrak systems are superbly designed and extremely robust. They can be expected to stand up to all normal site conditions. Electrak has been short circuit strength tested by ASTA.

32 Amp tap-off unit

The 32 amp tap-off unit comprises an unfused tap-off with either 2.8 metres of 16mm/20mm diameter flexible metal conduit or VO rated nylon conduit both with integral 4mm² LSOH conductors.

These units are designed to comply with regulation 473-02-02 of the IEE Wiring regulations by virtue of the following:

- 1 Maximum length of cable is 3 metres
- 2 It is factory assembled and fully tested item with cable installed in high quality flexible conduit.

Fault condition protection for the tap-off assembly and the floor box socket outlets is afforded by the circuit protective device. Disconnection time for socket outlets is 0.4 seconds (IEE Reg. 413-02-08). The Electrak system meets this requirement.

Tap off units in excess of 3 metres should only be used if they contain a fuse or the power track is protected by a 32 amp rated protective device.

Earth Fault Loop Impedance

BS 7671: 2001 IEE Wiring Regulations require accurate determination of the total earth loop impedance, which must be sufficiently low to allow the protective device to operate within the specified time, which for socket outlets is 0.4 seconds. The values relevant to Electrak for calculating the earth fault loop impedance are shown in the electrical test data table.

Electrical Test Data:

Rated Current	63	A
Rated Voltage	230/415	V~
Frequency	50/60	Hz
Conductor Resistance - Live & Neutral	3.0	mΩ/m
Conductor Impedance	1.5	mΩ/m

Volt Drops

Live & Neutral:	Busbars	3.0	mV/A/m
	Cable Connector	0.4	mV/A
	Track Connector	0.4	mV/A
	32A Tap-Off	0.4	mV/A
	+ 4mm ² Cable	11	mV/A/m
	Flexible corner assembly	1.5	mV/A
	+ 10mm ² Cable	4.0	mV/A/m

Earth Fault Loop Impedance:

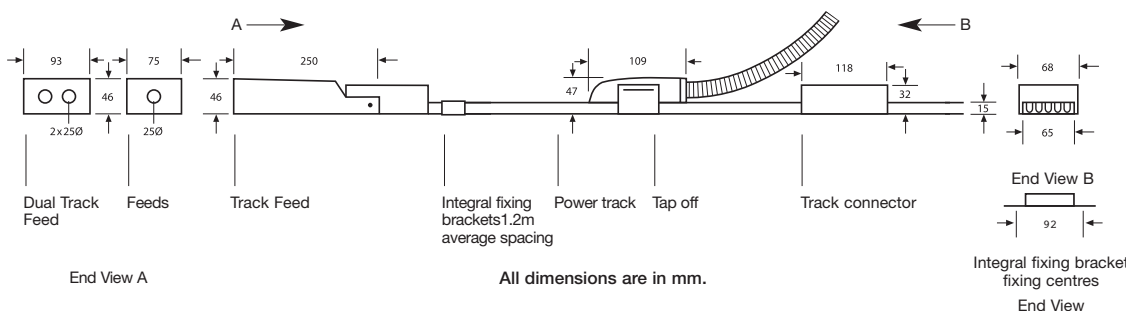
Phase busbar	1.5	mΩ/m
Earth busbar	1.5	mΩ/m
Earth housing	1.1	mΩ/m
Earth busbar & housing	0.8	mΩ/m
Cable connector	0.4	mΩ
Track connector	0.6	mΩ
32A Tap-Off	0.6	mΩ
+ 4mm ² Cable	11	mΩ/m
Flexible corner assembly	1.5	mΩ
+ 10mm ² Cable	4.0	mΩ/m
Rated Conditional Short-Circuit Current	16	KA
Ambient Temperature	25	°C

Mechanical Data:

Number of conductors	3 to 6	
Busbar conductor cross sectional area	13	mm ²
Housing cross sectional area (copper equivalent)	13	mm ²
Cable terminal capacity	16	mm ²
Tap-off cable 32A	4	mm ²
Tap-off cable 13A fused	1.5	mm ²
Tap-off conduit, up to 4 conductors	16	mmØ
Tap-off conduit, 5 and 6 conductors	20	mmØ
Flexible corner cable (Tri-rated, high temperature)	10	mm ²
Flexible corner conduit	25	mmØ
IP rating	40	

Material Specifications:

Power track housing	Galvanised Steel, natural finish
Busbars	High conductivity copper
Busbar insulator	PTFE
Track connector/Socket outlet/Track feed connector	Flame Retardant Polycarbonate
Socket outlet entry shutter	Acetal
Tap-off Housing	Flame Retardant Polycarbonate
Track Connector Blades	Copper
Tap-off Blades	Copper
Tap-off/Flexible corner conduit, metal	Electro-galvanised steel
Tap-off conduit, plastic	VO rated
Tap-off cable	LSOH to BS7211
Flexible interlink cable	Tri-rated to BS6231
Track feed box/Flexible interlink boxes	Galvanised steel
Track feed connector Terminals/Earth block	Brass
Track fixing brackets	Galvanised steel
13A Tap-off, fuse	To BS 1362, ASTA approved



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