

Tandberg Vertical Strip MDU System Specification - iss B 18/12/08

V-Strip 40, 20Amp version

2 x Neutrik 20A inlets

2 x Arcoelectric red illuminated rocker switches rated 20Amps @ 250VAC UL CSA, 150Amp inrush, positive break mechanism

40 x Female IEC outlets rated at 10Amps maximum

40 x T5Amp HBC ceramic fuse, 1500Amp breaking capacity

40 x High intensity green LED fuse OK indicators

Bus bar wire using 18swg tinned copper wire with sleeving

Inter-connections to be wired using tri-rated 32/0.2mm rated at 17Amps, 105deg C, 600Vrms.

IEC outlets wired as ring main

V-Strip 40, 32Amp version

2 x Neutrik 32A inlets

No power switches fitted

40 x Female IEC outlets rated at 10Amps maximum

40 x T5Amp HBC ceramic fuse, 1500Amp breaking capacity

40 x High intensity green LED fuse OK indicators

Bus bar wire using 16swg tinned copper wire with sleeving

Inter-connections to be wired using tri-rated 30/0.25mm rated at 21Amps, 105deg C, 600Vrms.

IEC outlets wired as ring main

Inrush Limiter (Soft start) unit

Rear panel

2 x Neutrik 32A inlets

2 x Neutrik 32A outlets (when available) Hardwired with 4mm sq. wire in mean time

2 x voltage selector switch (Arcoelectric) 115/230 VAC

Front panel

2 x Rocker power switch - Arcoelectric (control only - non load bearing)

2 x High intensity green LED mains 'on' indicators (located inside power switch)

2 x Green LED for indication of SSR 'on'

2 x Blue LED for indication of Relief Relay 'on'

2 x Yellow LED for indication of leak protection 'off'

2 x Red LED for indication of SSR thermal protection 'active'

2 x 3 digit Red LED Ammeter 0.1 to 50 Amp range

Solid state relay (SSR) specification

Operating range, 48-530VAC

Max load current, 75Amps

Surge current (16.6ms), 1000Apk

Max on state voltage drop, 1.6Vpk

Max IsqT for fusing (8.3ms), 4150AsqS

Zero voltage switch on, zero current switch off

Internal snubber network, 47R resistor & 22nF capacitor

SSR protection fuse, T32A HBC 32mm ceramic - 3900AsqS

Control voltage, 12VDC

Relief relay (EMR) specification

Coil voltage, 12VDC

Coil resistance, 90R

Contact arrangement, DPDT-CO

Contact rating on N/O contacts, 30Amp

Internal dual power supply specification

Type, linear with toroidal transformer
Input voltage range (115VAC selected), 80-130VAC
Input voltage range (230VAC selected), 160-260VAC
Protection fuse HT, T250mA 20mm glass
Protection fuse LT, T500mA 20mm glass
Output voltage, +12VDC regulated

Mains filtering

Inlets, 2 x 100nF X2 between Live & Neutral
Outlets, 2 x 100nF X2 between Live & Neutral

Thermal Protection for SSR

Type, 2 x Auto reset thermal switch
Contact arrangement, normally closed (N/C)
Operating temperature (opening), 80deg C
Operating temperature (closing), 65deg C
Purpose, to shut down control voltage to SSR in the event of overheat

Switching system

Double pole switching (L & N) with leak protection
Two independent 32 Amp switching systems contained within one unit

Ammeter Specification

AC Operation
85-264VAC supply voltage range
Protection fuse HT, T250mA 20mm glass
Minimum current reading (resolution) 100mA
Maximum current reading 50A
Frequency range 47 to 450Hz

Fail Alarm output

2 x isolated relay contact outputs with n/o, n/c & com brought out onto 2 x 3 pin connectors

Operation

When power switch is set to 'on' position the SSR's are turned on first establishing power connection to equipment utilising zero voltage switching to reduce inrush current, two seconds later the relief EM relay bypasses the SSR's. When power switch is set to 'off' position the relief EM relay is turned off first diverting load current to the SSR's, two seconds later the SSR's are turned off disconnecting equipment utilising zero current switching. A green LED within the power switch confirms mains power is present on outlet. Three coloured LED status indicators green, blue & yellow provide 'confidence' of correct operation. Thermal protection is provided to safely shut down the SSR's in the event of overheating – a red LED status indicator shows operation. Thermal protection does not shut down the relief EM relay.

Benefit of Hybrid Design over other methods

SSR Zero switching reduces inrush current by two thirds
Massive inrush current capability
No heat generation by SSR means no heatsink required
Compact design
No arcing across EMR terminals – increased life & uprated continuous current rating
Zero load power switch increases switch life & reliability

