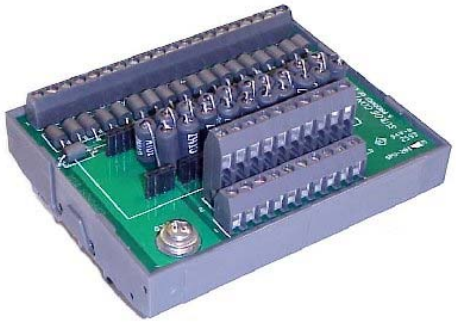
SPU Series

I/O Module Signal/Data/Power

Surge Suppressor Multi-Line



SPU-20LM Motherboard

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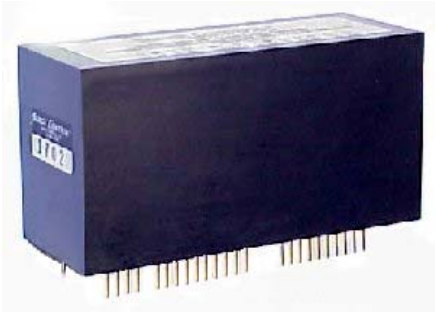


Replaceable Daughtercard

Features:

- Performance exceeds highest class severity level of IEC/EN 61000-4-4 and 61000-4-5.
- Enhanced filtering option to attenuate high frequency. Brings equipment into compliance with IEEE /ANSI C37.90.1.
- Universal hardwired version for all I/O modules including AC, DC, contact output, current output and signal input.
- Unique multi-stage design provides the most effective suppression and filtering available, and requires no additional secondary protection.
- Sub-nano second response time stops failures due to lightning, spikes and over-voltage surges while filtering all other electrical noise.
- Plug-in replaceable daughter card modules contain all active surge suppression.
- Space efficient protector is hermetically sealed and suitable for the most harsh industrial environments.
- Universal DIN-Rail mounting allows easy installation on any standard DIN-Rail configuration.
- Automatic reset and fail safe design requires no maintenance. Eliminates “Out of Service” downtime and repair/replacement costs caused by damaging electrical surges.
- Protection for current loop instrumentation and low frequency signal/data lines.
- UL-497B listed for Data Models (60 VDC or less) UL file E205158.

Applications:

The SPU Series is a universal DIN-Rail multi-line surge suppressor designed to protect I/O modules of all major manufacturers in the most harsh environments. The SPU Series should be selected in all cases where Allen-Bradley IFM or AIFM modules are used. Protection is from lightning induced surges, Electrical Fast Transients (EFT), and EMI/RFI noise.

Select the SPU-20LM or SPU-20RM base module for 1 to 20 point applications. The SPU-40LM or SPU-40RM base module should be used for 21-40 point applications. Select the required plug-in daughter module by application as noted on the reverse side of this sheet.

See the SAB-Series data sheet for Allen-Bradley PLC or SLC I/O applications when the swing arm is utilized.

Typical Installation:

Snap the rail mounted suppressor on any DIN-Rail next to the equipment it is to protect. Field wires are connected to the field miniature screw terminals on the SPU suppressor unit. Connect the protected lines to the I/O equipment and dress away from the incoming lines. The suppressor must be connected to a good earth ground using a #12 AWG wire. Equipment ground and suppressor ground should be common.

SPU Series Operating Specifications:

Daughter Module Specifications	SPU-XX YY05	SPU-XX YY10	SPU-XX YY24	SPU-XX YY30	SPU-XX YY48	SPU-XX YY60	SPU-XX YY120 See Note 1	SPU-XX YY220
Operating Voltage	± 5 VDC	± 10 VDC	± 24 VDC	± 30 VDC	± 48 VDC	± 60 VDC	120 VAC	220 VAC
Maximum Operating Voltage	6 VDC	12 VDC	25 VDC	33 VDC	53 VDC	64 VDC	150 VAC	280 VAC
Max Op. Current RM Module / LM Module	0.2 / 2.0 A	0.2 / 2.0 A	0.2 / 2.0 A	0.2 / 2.0 A	0.2 / 2.0A	0.2 / 2.0 A	N/A / 2.0 A	N/A / 2.0 A
Clamping Action Turn-On	7.1 Volts	14.3 Volts	28.5 Volts	37.1 Volts	58.9 Volts	71.3 Volts	143 Volts	315 Volts
Maximum Clamping (8x20 micro-seconds)	11 Volts	22 Volts	44 Volts	52 Volts	81 Volts	94 Volts	190 Volts	470 Volts
Maximum Surge Voltage	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV
Maximum Surge Current (8x20 micro-seconds)	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
Response Time	Less than 1 nanosecond							
Operating & Storage Temperature	-40 °C to +85 °C							

BASE MODULE

SPU–XX YY

Number of Lines:
20 – 20 lines
40 – 40 lines

Application:
RM – Standard model
LM – Standard model with enhanced filtering

DAUGHTER MODULE

SPU–XX YY ☐

Number of Lines:
10 – Up to 10 lines
20 – Up to 20 lines
30 – Up to 30 lines
40 – Up to 40 lines

Application:
CD – Standard model

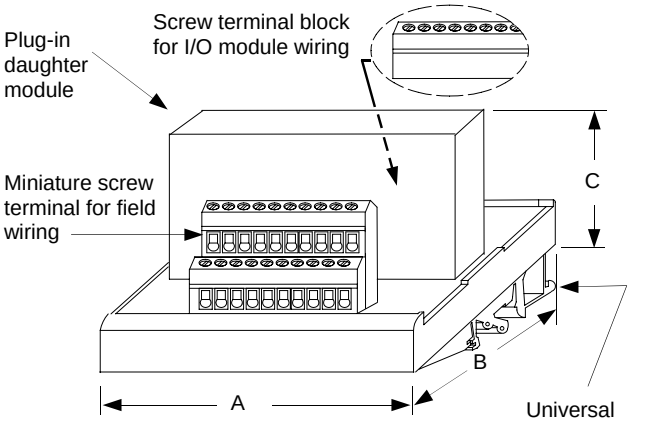
Operating Voltage:
See table above

Notes:

1. **For applications requiring use of SPU-XXCD120 or SPU-XXCD220 always use the SPU-20 LM or SPU-40LM base modules**
2. **Base and daughter modules can be purchased separately, however, initial installations will require both a base and daughter module.**

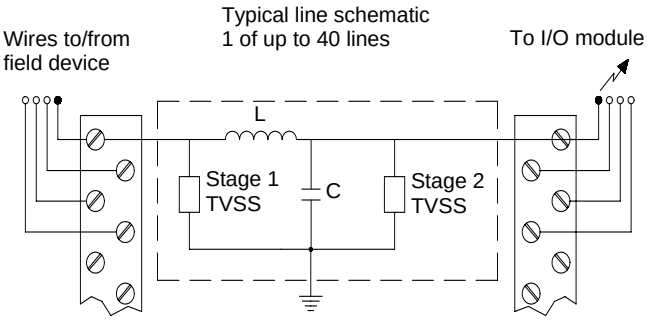
Outline Dimensions:

SPU-20LM & SPU-20CD24 Depicted



Base with Daughter Module	A	B	C
20 Line	4.5″	3.6″	2.9″
40 Line	6.3″	3.6″	2.9″

Typical Installation:



Note: See the SAB Series data sheet for Allen-Bradley PLC or SLC I/O applications when the Allen-Bradley I/O pre-wired cable is used.

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