

1U Rackmount Card Cage

1U (TCRM19DR)

- Holds up to 2 JumboSwitch® Family Hot-Swappable Cards
- Built-In Power Redundancy
- Various AC & DC Power Ranges
- Industry Standard 19" Wide
- Ruggedized design for Harsh Environments
- Extreme Temperature (-40°C to +80°C) Optional
- Member of the JumboSwitch® Product Family



JumboSwitch® 1U Rackmount Card Cage

The JumboSwitch® 1U rack mount cages are designed to hold JumboSwitch® family hot-swappable card.

The TCRM19DR holds one Main+Management combo card and one Ethernet expansion or Interface card.

The dual load-sharing power supplies automatically switch over in the event a power failure affects one of the supplies. It should be noted that only one power supply is required to operate a 1U card cage. The power supply options are:

- 12VDC (standard)
- 24VDC, -48VDC and 125VDC (optional)
- 115VAC/230VAC or 260VAC (50-60Hz)

See page 3 for details.

The universal AC power supply automatically adjusts for 90 to 264VAC input and 47 to 63 Hz operation.

The standard operating temperature is -20°C to +70°C and the extreme temperature option is -40°C to +80°C.

See page 4 for dimensions.

Applications

Sturdy and durable, JumboSwitch® 1U card cage house hot-swappable JumboSwitch® family cards in a standard 19" rack. Power supplies can be remotely managed and dual load sharing power supplies automatically switch over in the event of a power failure.

Slot Configuration

TCRM19DR

- 1 Management Card*
- 1 Ethernet Expansion or Interface Card

*TC3840-5 or TC3850-3

Environmental & EMC Compliance

The JumboSwitch® product family meets all pertinent industry-specific standards for environmental, performance and security requirements including IEC 61850-3, IEEE 1613, NEMA TS-2 and NERC CIP. Furthermore, future JumboSwitch® family products will continue to be compliant with both existing and emerging industry standards and requirements, including developing Ethernet standards. Please refer to the charts below for specific standards compliance information.

	Test	Industrial Standards	JumboSwitch TC3850 Series Type Test and Levels	
			Power Supply Unit (PSU)	RJ-45 & Signal
Temperature/Humidity	Low Temperature Use	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-1; Ae; -40°C; 16 hour	
	Low Temperature Storage	IEC 61850-3, IEEE 1613, NEMA TS-2		
	High Temperature Use	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-2; Be; +80°C; 16 hour	
	High Temperature Storage	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-2; Bd; +85°C; 16 hour	
	Damp Heat	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-30; Db; +55°C; 95%; 96 hours	
Mechanical	Vibration	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-6; Fc; 3 - 150 Hz; 7.5 mm; 2 g; 10 sweeps per axis	
	Shock	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-27; Ea; 30g; 11ms	
	Free Fall	IEC 61850-3, IEEE 1613	25 cm	
ElectroMagnetic Compatibility	Electrostatic Discharge Immunity	IEC 61850-3, IEEE 1613 (C37.90.3)	IEC 61000-4-2; 8kV contact; 15 kV air	
	Radiated RF Immunity	IEC 61850-3, IEEE 1613 (C37.90.2)	IEC 61000-4-3; 80 MHz - 1000 MHz; 35 V/m (Peak); AM 80% at 1 kHz	
	EFT/Burst Immunity	IEC 61850-3, IEEE 1613 (C37.90.1)	IEC 61000-4-4; 4 kV CM; TM	IEC 61000-4-4; 4 kV CM; TM
	Surge Immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-5; 4 kV LG; 2 kV LL	IEC 61000-4-5; 4 kV LG; 2 kV LL
	Conducted RF immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-6; 150 kHz - 80 MHz; 10 V; AM 80% 1 kHz	IEC 61000-4-6; 150 kHz - 80 MHz; 10 V; AM 80% 1 kHz
	Magnetic Field Immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-8; 50 Hz; 100 A/m cont.; 1000 A/m 1 second	
	Damped Oscillatory Magnetic Field Immunity	IEEE 1613	IEC 61000-4-10; 100 kHz; 30 A/m	
	Damped Oscillatory Magnetic Field Immunity	IEEE 1613	IEC 61000-4-10; 1 MHz; 30 A/m	
Power Supply Unit (PSU) Variations & Emissions	AC Voltage Dips	IEC 61850-3	IEC 61000-4-11; 30% & 100%, 0.5s	NA
	DC Voltage Dips	IEC 61850-3	IEC 61000-4-29; 40% & 70%, 0.1s	NA
	Ripple on DC Power Supply	IEC 61850-3	IEC 61000-4-17; 10% Un	NA
	Conducted PF CM Voltage	IEC 61850-3, IEEE 1613	IEC 61000-4-16; 50 Hz; 30 V cont.; 300 V 1s	IEC 61000-4-16; 50 Hz; 30 V cont.; 300 V 1s
	Conducted Emission	IEC 61850-3	CE/FCC/CISPR32 class A	CE/FCC/CISPR32 class A
	Radiated Emission	IEC 61850-3	CE/FCC/CISPR32 class A	
Dielectric	Dielectric 50 Hz Test	IEEE 1613	IEC 60255-5; 2 kV	IEC 60255-5; 0.5 kV
	Impulse Voltage Test	IEEE 1613	IEC60255-5; 5 kV	IEC 60255-5; 5 kV

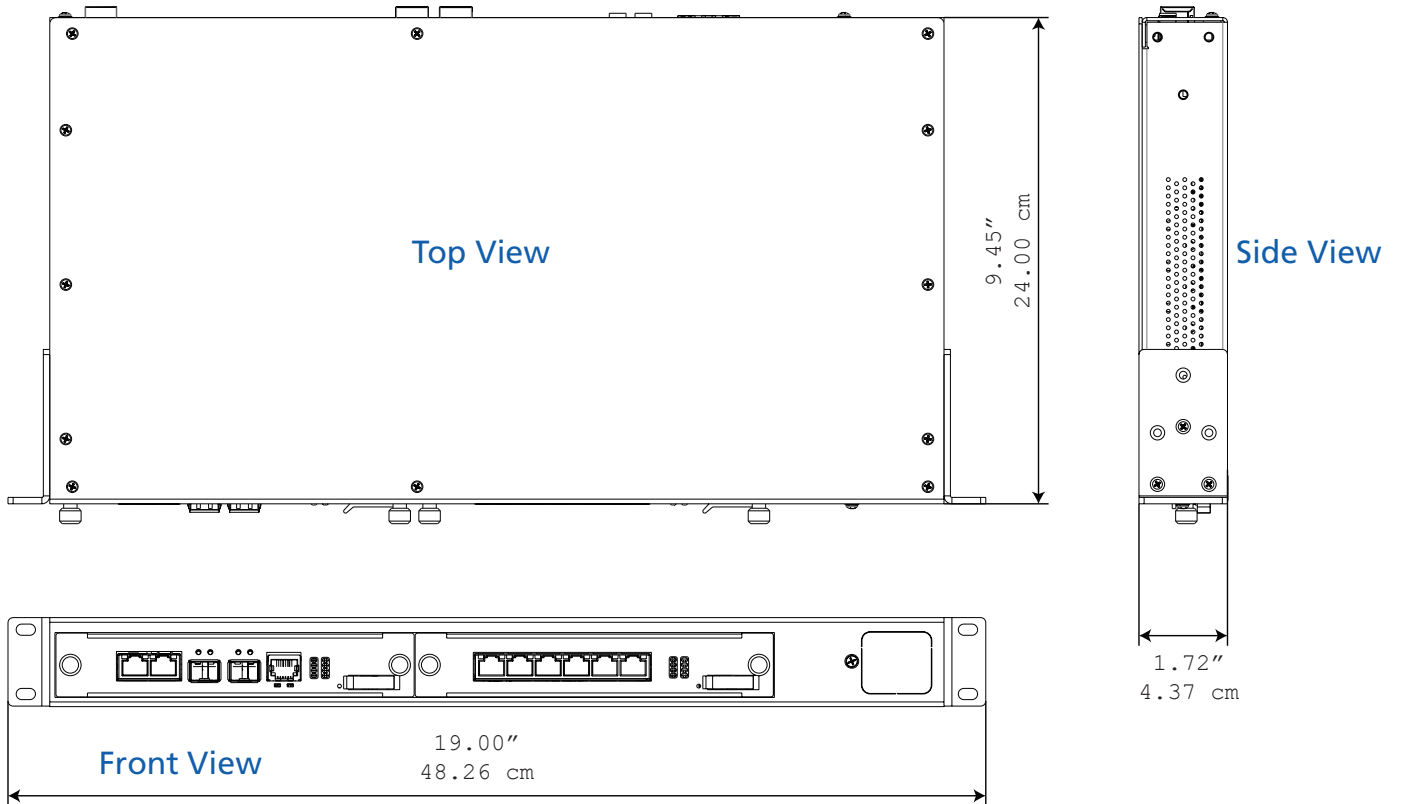
JumboSwitch® TCRM19DR Power Supply

Part Number Format Key:
 TCRM19DR[Temperature]-[Pwr A]-[Pwr b]
 Example: TCRM19DR-12-12

Temperature Option Key:
 TCRM19DR: R - Regular Temp; Y: High Temp

Power Supply Type	12V DC	24V DC	48V DC	125V DC	AC
TC P/N	12	24	48	25	01
Product Input Voltage Range	9-18V DC	18-36V DC	36-64V DC	100-135V DC	90-264V AC
Maximum Output Power	40W	40W	40W	85W	65W
Input frequency AC	N/A	N/A	N/A	N/A	47-63Hz
Input Inrush Current Protection	No	No	No	<10Amp @ 125VDC	<40Amp @ 115VAC cold Start, <70Amp @ 230AC
Efficiency	Up to 88%	Up to 88%	Up to 89%	Up to 89%	85% Typical
Overload Protection	Up to 150% of Max Output Load	Up to 150% of Max Output Load	Up to 150% of Max Output Load	Up to 140% of Max Output Load	Auto Recovery
Short Circuit Protection	Continous, automatic recovery	Continous, automatic recovery	Continous, automatic recovery	Continous, automatic recovery	Auto Recovery
Over Voltage Protection	Yes, up to 124% Vout max	Yes, up to 124% Vout max	Yes, up to 124% Vout max	Yes, up to 130% Vout max	Latch Off

JumboSwitch® 1U Card Cage Dimensions (TCRM19DR)



SAI GLOBAL

ISO 9001
Quality

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Note - Information contained in this data sheet is subject to change without prior notice.



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