

# Sorensen XT Series

42–60 W

## 60 Watt Linear Performance DC Power Supply

7–250 V

- Low noise and ripple
- Excellent line/load regulation
- Fast transient response
- Constant voltage or constant current operation with automatic crossover and mode indication
- Current limit
- Front and rear outputs
- Remote sense 0.5 V per line
- LabVIEW® and LabWindows® drivers



0.25–6 A

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115

230

GPIB RS232

The Sorensen XT Series provides 60 watts of programmable linear DC power in a quarter-rack package suited for both benchtop and system applications. XT Series power supplies are ideal for OEM applications where a wide adjustment of output voltage or current is required in a compact package. For systems applications, multiple single units can be rack mounted in configurations of up to four independent 60-watt outputs.

**AMETEK**  
**Programmable Power**  
 9250 Brown Deer Road  
 San Diego, CA 92121-2267  
 USA

**AMETEK®**  
 PROGRAMMABLE POWER

# XT Series : Product Specifications<sup>1</sup>

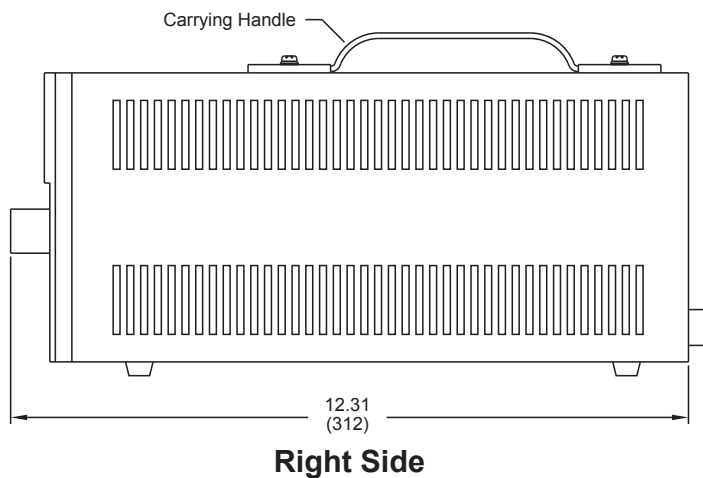
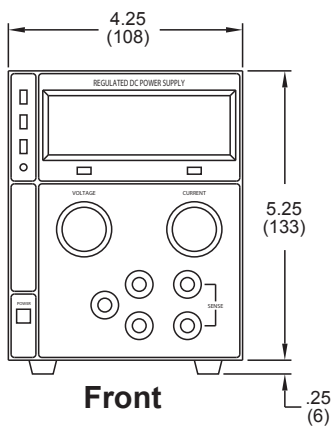
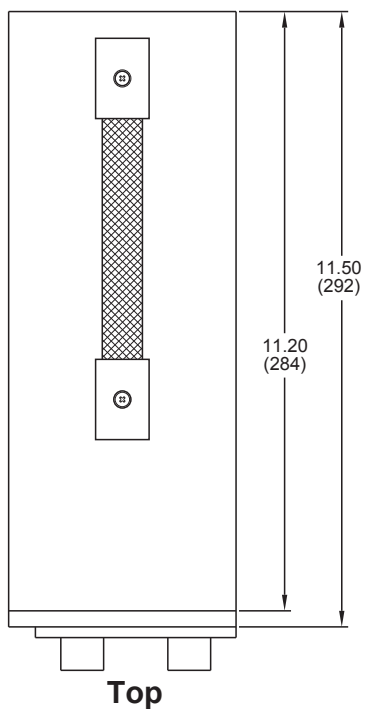
Output : Voltage and Current				
Models	Output Voltage	Output Current	Output Power	
XT 7-6	0-7 V	0-6 A	42 W	
XT 15-4	0-15 V	0-4 A	60 W	
XT 20-3	0-20 V	0-3 A	60 W	
XT 30-2	0-30 V	0-2 A	60 W	
XT 60-1	0-60 V	0-1 A	60 W	
XT 120-0.5	0-120 V	0-0.5 A	60 W	
XT 250-0.25	0-250 V	0-0.25 A	60 W	
Models	Line Regulation <sup>2</sup> Voltage	Line Regulation <sup>2</sup> Current	Load Regulation <sup>3</sup> Voltage	Load Regulation <sup>3</sup> Current
XT 7-6	2.7 mV	6.25 mA	2.7 mV	6.25 mA
XT 15-4	3.5 mV	4.25 mA	3.5 mV	4.25 mA
XT 20-3	4 mV	3.25 mA	4 mV	3.25 mA
XT 30-2	5 mV	2.25 mA	5 mV	2.25 mA
XT 60-1	8 mV	1.25 mA	8 mV	1.25 mA
XT 120-0.5	14 mV	0.75 mA	14 mV	0.75 mA
XT 250-0.25	27 mV	0.50 mA	27 mV	0.50 mA
Models	Output Noise & Ripple (20 Hz – 20 MHz) Voltage	Output Noise & Ripple (20 Hz – 20 MHz) Current	Meter Accuracy Voltage (1% of Vmax + 1 count)	Meter Accuracy Current (1% of Vmax + 1 count)
XT 7-6	< 1 mVrms	< 2 mArms	0.08 V	0.07 A
XT 15-4	< 1 mVrms	< 2 mArms	0.25 V	0.05 A
XT 20-3	< 1 mVrms	< 2 mArms	0.3 V	0.04 A
XT 30-2	< 1 mVrms	< 2 mArms	0.4 V	0.03 A
XT 60-1	< 1 mVrms	< 2 mArms	0.7 V	0.02 A
XT 120-0.5	< 1 mVrms	< 2 mArms	2.2 V	0.006 A
XT 250-0.25	< 5 mVrms	< 1 mArms	3.5 V	0.003 A
Models	Drift (8 hours) <sup>4</sup> Voltage (0.02% of Vmax)	Drift (8 hours) <sup>4</sup> Current (0.03% of Imax)	Temperature Coefficient <sup>5</sup> Voltage (0.015% of Vmax/°C)	Temperature Coefficient <sup>5</sup> Current (0.02% of Imax/°C)
XT 7-6	1.4 mV	1.8 mA	1.05 mV	1.2 mA
XT 15-4	3 mV	1.2 mA	2.25 mV	0.8 mA
XT 20-3	4 mV	0.9 mA	3 mV	0.6 mA
XT 30-2	6 mV	0.6 mA	4.5 mV	0.4 mA
XT 60-1	12 mV	0.3 mA	9 mV	0.2 mA
XT 120-0.5	24 mV	0.15 mA	18 mV	0.1 mA
XT 250-0.25	50 mV	0.075 mA	37.5 mV	0.05 mA

Specifications subject to change without notice.

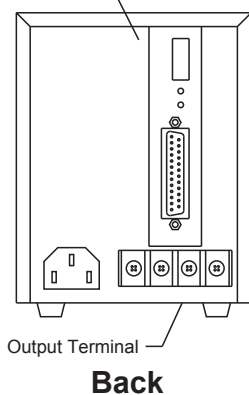
- Specifications indicate typical performance at 25° C ± 5°C, nominal line input of 115 Vac.
- For input voltage variation over the AC input voltage range, with constant rated load.
- For 0-100% load variation, with constant nominal line voltage.
- Maximum drift over 8 hours with constant line, load, and temperature, after 30-minute warm-up.
- Change in output per °C change in ambient temperature, with constant line and load.
- Apply accuracy specifications according to the following voltage program accuracy example: Set a model 15-4 power supply to 10 V. The expected result will be within the range of 10 V ± 20 mV ± 0.1% of the set voltage of 10 V.

XT 60 W Internal Interface Specifications with RS232 or GPIB Interface Installed <sup>1,6</sup>			
Models	Program Accuracy Voltage (mV)	Program Accuracy Current (mA)	Program Accuracy OVP (mV)
XT 7-6	10 + 0.1%	110 + 0.15%	70
XT 15-4	20 + 0.1%	70 + 0.15%	150
XT 20-3	20 + 0.15%	50 + 0.15%	200
XT 30-2	30 + 0.15%	40 + 0.15%	300
XT 60-1	200 + 0.15%	26 + 0.2%	200
XT 120-0.5	400 + 0.15%	13 + 0.2%	1200
XT 250-0.25	800 + 0.15%	7 + 0.2%	2400
Models	Readback Accuracy Voltage (mV)	Readback Accuracy Current (mA)	
XT 7-6	10 + 0.15%	110 + 0.15%	
XT 15-4	10 + 0.1%	70 + 0.15%	
XT 20-3	10 + 0.1%	50 + 0.15%	
XT 30-2	15 + 0.1%	40 + 0.15%	
XT 60-1	35 + 0.15%	26 + 0.2%	
XT 120-0.5	70 + 0.15%	13 + 0.2%	
XT 250-0.25	140 + 0.15%	7 + 0.2%	
Input			
Operational AC Input Voltage	Standard: 115 Vac ±10%. 57-63 Hz; Optional: 110/220/230/240 Vac ±10%, 47-63 Hz		
AC Input Current	Single Unit: 1.2 A		
General			
Voltage Mode Transient Response Time	< 100 µs recovery to 0.05% band, ±50% load change in the range of 25% to 100% of the rated load		
Front Panel Voltage and Current Control	10-turn voltage and 1-turn current potentiometers (10-turn current optional)		
Front Panel Voltage Control Resolution	0.02% of maximum voltage		
AC Input Connector Type	IEC 320 connector		
Approvals	Meets USA EMC standard FCC Part 15B Class A; meets Canadian EMC standard: ICES-001, Class A (Models up to and including 120 V)		
Analog Programming (with optional APG interface installed)			
Remote On/Off and Interlock	2 to 25 Vdc high. < 0.8 Vdc low. User-selectable.		
Remote Analog Programming Option	0-10 Vdc for 0-100% or rated voltage or current ±0.1%, 0-10 kΩ for 0-100% of rated voltage or current ±0.1%		
Remote Monitoring	0-10 Vdc for 0-100% of rated voltage or current ±0.1%		
Over Voltage Protection Trip Range	3 V to full output +10%		
Tracking Accuracy	±1% for series operation		
Environmental			
Operating Temperature	0 to 30°C for full rated output. Above 30°C, derate output linearly to zero at 70°C		
Storage Temperature	- 55 to 85°C		
Humidity Range	Up to 80% RH, non-condensing		
Physical			
Dimensions	Width: 4.2" (109.2 mm) Height: 5.2" (134.7 mm) Depth: 11.7" (297 mm)		
Weight	Approximately 7.7 lb (3.5 kg)		

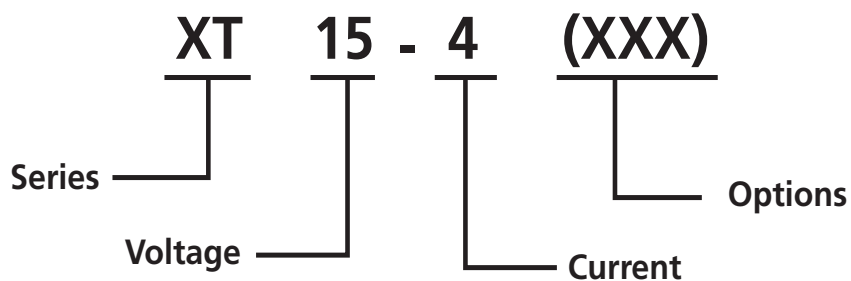
# XT Series : Technical Diagram



Optional J-305 Analog  
or IEEE-488 STD Port



## Model Number Description



## Options and Accessories

MGA	GPIB Interface card *
MRA	RS-232 Interface card *
MAA	Analog programming interface card *
RM-XPDG-3	19-inch Rack Mount Kit
M11	10-turn current potentiometer
M13A	Locking knobs for front panel controls
M43	Switch Selectable Input 110 Vac or 220 Vac

## AC Input Options

M1	110 Vac Input (50/60Hz)
M2	220 Vac Input (50/60 Hz)
M3	230 Vac Input (50/60Hz)
M4	240 Vac Input (50/60Hz)

\* Options cannot be combined.

