



## F6150sv Technical Specifications



CONVERTIBLE AMPLIFIERS				
Current Mode				
Convertible Source AC Ranges	Convertible Source DC Ranges	Power	Resolution AC Ranges	Resolution DC Ranges
6 X 0.5, 1.0 A RMS (L-N)	6 X 0.354, 0.707 A DC	6 X 75VA / 75 W	0.0001 A	0.0001 A
3 X 0.5, 1.0, 2.0 A RMS (L-N)	3 X .354, 0.707, 1.41 A DC	3 X 150VA / 150 W	0.0001 A	0.0001 A
1 X 1.5, 3.0, 6.0 A RMS (L-N) S1    S2   S3	1 X 1.06, 2.12, 4.24 A DC S1    S2   S3	1 X 450VA / 450 W S1    S2   S3	0.001 A	0.001 A
Current Transient Mode				
Convertible Source AC Ranges	Convertible Source DC Ranges	Power	Resolution AC Ranges	Resolution DC Ranges
6 X 0.75, 1.5 A RMS (L-N)	6 X 0.53, 1.06 A DC	6 X 97.5VA / 97.5 W	0.0001 A	0.0001 A
3 X 0.75, 1.5, 3.0 A RMS (L-N)	3 X 0.53, 1.06, 2.12 A DC	3 X 195VA / 195 W	0.0001 A	(0.0001 A) @ 0.53, 1.06 A DC (0.001 A) @ 2.12 A DC
1 X 2.25, 4.5, 9.0 A RMS (L-N) S1    S2   S3	1 X 1.59, 3.18, 6.36 A DC S1    S2   S3	1 X 585VA / 585 W S1    S2   S3	0.001 A	0.001 A
Voltage Mode				
Convertible Source AC Ranges	Convertible Source DC Ranges	Power	Resolution AC Ranges	Resolution DC Ranges
6 X 75, 150V RMS (L-N)	6 X 106, 212V DC	6 X 75VA/ 75W	0.01 V	(0.01 V) @ 106V DC (0.1 V) @ 212V DC
3 X 75, 150, 300V RMS (L-N)	3 X 106, 212, 424V DC	3 X 150VA / 150 W	0.01 V	(0.01 V) @ 106V DC (0.1 V) @ 212, 424V DC
1 X 150, 300, 600V RMS (L-L) S1 & S2	1 X212, 424, 848V DC S1 & S2	1 X 300VA / 300 W S1 & S2	0.01 V	0.1 V DC

ENHANCED CURRENT AMPLIFIERS				
AC Ranges	DC Ranges	Power	Resolution AC Ranges	Resolution DC Ranges
6 X 8.75, 17.5, (35)* A RMS (L-N)	6 X 5.83, 11.7, (23.3)* A DC	6X 87.5VA / 87.5 W; (6 X 131.25VA /131.25 W)*	0.001 A	(0.001) A @ 5.83 A DC (0.01) A @ 11.6, (23.3)* A DC
3 X 8.75, 17.5, 35,(70)* A RMS (L-N)	3 X 5.83, 11.7, 23.3,(46.6)* A DC	3 X 175VA / 175 W; (3 X 262.5VA /262.5 W)*	(0.001) A @ 8.75, 17.5, 35 A RMS (0.01) @ (70)* A RMS	(0.001) A @ 5.83 A dc (0.01) A @ 11.7, 23.3, (46.6)* A DC
1 X 8.75, 17.5, 26.25,52.5, 105, (210)* A RMS (L-N) S1    S2   S3	1 X 5.83, 11.7, 17.5, 35,70, (140)* A DC S1    S2   S3	1 X 525VA / 525 W; (1X787.5VA/787.5 W)* S1    S2   S3	(0.001) A @ 8.75, 17.5, 26.25 A RMS (0.01) A @ 52.5, 105, (210)* A RMS	(0.001) A @ 5.83 A DC (0.01) A @ 11.7, 23.3, 35, 70, (140)* A DC

\* Maximum power delivered at high source range

AC Amplitude Accuracy @ 50-60 Hz @ 20° - 30° C		Phase Angle @ 50/60 Hz			Frequency		
Typical	Guaranteed	Range	Accuracy	Resolution	Bandwith	Range	Resolution
0.02% of reading + .01% of range	0.09% of reading + .04% of range	(+359.9°) -(0°) - (-359.9°)	± 0.25°	± 0.1°	DC - 3kHz at Full Power	DC, 0.1 Hz - 2.0 KHZ Continuous Full Load	0.001 Hz
Convertible Source in Current Mode @ 20° - 30° C					Distortion @ 50/60Hz V & I Sources Total Harmonic Distortion (THD)		
Guaranteed		Typical	Guaranteed		Typical	@ 20° - 30° C	@ 0° - 50° C
<0.5%		<0.02%	<0.1%		0.5 ppm	1.5 ppm	10 ppm

Logic Inputs (Voltage or Contact Sense)	
<b>Total Inputs:</b>	8*
Isolated Inputs	
<b>Inputs:</b>	2 (First Strike)
<b>Voltage Sense:</b>	250V RMS AC / 300V DC
<b>Open Circuit Test Voltage:</b>	12V DC
<b>Short Circuit Test Current:</b>	20mA DC
<b>Response Time:</b>	0.1 msec max pickup /dropout
<b>Input Impedance:</b>	150K $\Omega$
<b>Isolation:</b>	$\pm$ 500V peak
Paired Inputs	
<b>Inputs:</b>	3 Pairs (6)
<b>Voltage Sense:</b>	250V RMS AC / 300V DC
<b>Open Circuit Test Voltage:</b>	4V DC
<b>Short Circuit Test Current:</b>	>50mA DC
<b>Response Time:</b>	0.1 msec max pickup /dropout
<b>Input Impedance:</b>	150K $\Omega$
<b>Isolation:</b>	$\pm$ 500V peak

\* Additional 8 inputs available with F6816 option

Logic Outputs		
<b>Type:</b>	FET (High Speed Electronic)	Relay
<b>Number:</b>	4	4
<b>Isolation Voltage:</b>	$\pm$ 500V peak	$\pm$ 500V peak
<b>Response Time:</b>	0.1 millisecond pick up /dropout	<10 millisecond pick up /dropout
<b>Maximum (Make/Break Current):</b>	0.5 amps	(Breaking cap AC: 2000 VA with Vmax 250V, Imax 8 A) (Breaking cap DC: 50W with Vmax 300 V, Imax 8A)
<b>Input Voltage:</b>	250 V RMS	250 V RMS
Metering Functions		Variable Output Battery Simulator
DC Meter Inputs		
<b>Range:</b>	6 - 300V DC	
<b>Input Range:</b>	0 - $\pm$ 10V DC / 0 - $\pm$ 20mA DC	
<b>Resolution:</b>	0.3V	
<b>Typical:</b>	<0.003%	
<b>Power:</b>	90 W, 1.5 A max	
<b>Guaranteed:</b>	<+0.05%	
<b>50/60 Hz Ripple:</b>	<0.2% of Range	
AC Sources		
<b>Accuracy:</b>	< $\pm$ 5%	
<b>Typical:</b>	<0.02% of metering loads	
Logic Input As Counters		
<b>Frequency:</b>	10 kHz	
<b>Pulse width:</b>	>175 $\mu$ sec	

(AIM) Analog Input Measurement (F6820 Option)	
<b>Recording:</b>	8 external Analog or Digital Signals
<b>Internal Source recording:</b>	12 Sources
<b>Ranges:</b>	250 mV, 2.5V, 25V, 250V RMS
<b>Bandwidth:</b>	DC, 0-5kHz
<b>Input Impedance:</b>	150K $\Omega$
<b>Max Input Voltage:</b>	250V RMA AC / 300V DC
<b>Isolation:</b>	$\pm$ 500V peak channel to channel
Accuracy	
<b>Typical:</b>	$\pm$ 0.06%
<b>Maximum:</b>	$\pm$ 0.15%
Timing and Trigger	
<b>Timers Number:</b>	8
<b>Max Recording Time:</b>	<24 Hours
<b>Accuracy:</b>	$\pm$ 0.0005% of reading, $\pm$ 50 $\mu$ sec
<b>Resolution:</b>	100 $\mu$ sec

General Specifications							
<b>Enclosure:</b>	High-impact, molded, flame-retardant ABS-meets National Safe Transit Association testing specification No.1A for immunity to severe shock and vibration	<b>Environmental:</b>	IEC 60068-2-2 Dry Heat (+85°C storage; + 50°C Rating Operating), IEC 60068-2-1 Cold (-50°C storage; 0°C operating), IEC 60068-2-30 Damp Heat (+55°C, 6 cycles, 95% humidity), NEMA Enclose Rating Type 1IEC Enclosure IP20	<b>Electrostatic Discharge Immunity:</b>	IEC 801-2 I.E.C. performance level 1 @ 10kV: normal performance within specifications. I.E.C. performance level 2 @ 20kV: no permanent damage.	<b>IEC61850 GOOSE:</b>	Certified by KEMA as being compliant with IEC61850 protocol (IEC61850-7-2 and 8-1)
<b>Mechanical:</b>	IEC 60068-2-27 Shock (15g/11ms, half sine) IEC 60068-2-6 Vibration (10-150 Hz, 20m/s <sup>2</sup> ) IEC 60068-2-6 Drop Test	<b>EMC Emissions:</b>	FCC 47 CFR Part 15 Class A (USA), EN55011:1998/A1:1999/A2:2002 Group 1 Class A ISM(EU), AS/NZS CISPR 11:2004 Class A ISM (Australia), ICES-001 Issue 3 ISM (Canada)	<b>Surge Withstand Capability:</b>	ANSI/IEEE c37.90. The simulator functions as a source during surge withstand capability tests, when the ANSI/IEEE specified isolating circuit is interposed between the simulator and the test relay.	<b>IEC61850 Sample Values (Publishing):</b>	80 samples per cycles for nominal frequencies 50Hz and 60Hz using GPS time synchronized signals
<b>Weight:</b>	42lb, 19.05kg (front cover and strap included)	<b>EMC Immunity:</b>	EN 61000-6-2:2005; IEC 61000-4-2/3/4/5/6/11	<b>Line Power Supply:</b>	105-264V, 47-63 Hz	<b>Communication Interfaces (Ethernet, Wi-Fi, USB)</b>	Ethernet or USB control to PC, Wi-Fi (802.11 B+G bands, 30 - 80ft, 9 - 24m)
<b>Dimensions:</b>	15 X 9.5 X 18 inches, 38 X 24 X 45.7 cm	<b>Quality Assurance Management System:</b>	Third Party certification to ISO 9001:2000	<b>Safety:</b>	EN 61010-1; UL 61010-1; CSA 27.2 # 61010-1		
<b>Calibration:</b>	Certification traceable to N.I.S.T. standards	<b>Humidity:</b>	Up to 95% relative humidity, non-condensing				

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