

SPECIFICATION

Frequency Range		DC,10mHz ~ 2MHz (10Arms), (30Arms) DC,10mHz ~ 1MHz - (50Arms)
Voltage Input		300mVpk ~ 3000Vpk(1000Vrms) in 9 ranges (240Vrms within 300Vpk range, using 20% overage)
Internal	Range	300mVpk ~ 3000Vpk(1000Vrms) in 9 ranges (240Vrms within 300Vpk range, using 20% overage)
	Accuracy	0.01% Rdg+0.038% Rng+(0.004%*kHz)+5mV
External	Range	300μVpk ~ 3Vpk in 9 ranges [BNC connector 3Vpk max input]
	Accuracy	0.01%Rdg+0.038%Rng+(0.004%*kHz)+3μV
Current Input		
Internal	Ranges	3mApk ~ 30Apk(10Arms) in 9 ranges
	Accuracy	0.01% Rdg+0.038% Rng+(0.004%*kHz)+ 30μA
	Ranges	30mApk ~ 300Apk(30Arms) in 9 ranges
	Accuracy	0.01% Rdg+0.038% Rng+(0.004%*kHz)+ 300μA
	Ranges	100mApk ~ 1000Apk(50Arms) in 9 ranges
	Accuracy	0.01% Rdg+0.038% Rng+(0.004%*kHz)+ 900μA
External input (External shunt Current sensor)	Ranges	300μVpk ~ 3Vpk in 9 ranges
	Accuracy	0.01% Rdg+0.038% Rng+(0.004%*kHz)+ 3μV
Phase Accuracy		0.005deg+(0.01deg*kHz) [LC(10Arms), (30Arms)] 0.01deg+(0.02deg*kHz) [HC(50Arms)]
Power Accuracy		[0.03%+0.03%/pf+(0.01%*kHz)/pf] Rdg+0.03%VA Rng
40-400Hz		[0.02%+0.03%/pf+(0.01%*kHz)/pf] Rdg+0.02%VA Rng
General		
Crest Factor	20(Voltage and Current)	
Sample Rate	2.2Ms/s on all channels, No-Gap	
IEC Modes	IEC61000 Harmonics and Flicker, IEC62301 Standby Power	
Application Modes	PWM Motor Drive, Ballast, Inrush, Power Transformer, Standby Power, Fluctuating Harmonics, Flicker Meter, TVF105 Interharmonics	
CMRR - Common Mode Rejection Ratio		
	250V @ 50Hz - ≥ 1mA (150dB)	
	100V @ 100kHz - ≥ 3mA (130dB)	
Measurement Parameters		
	W ,VA ,Var ,pf ,V & A - rms ,rectified mean ,AC ,DC ,Peak ,Surge ,Crest Factor ,Form Factor ,Star to Delta Voltage, +ve Pk, -ve Pk	
	Frequency (Hz), Phase (deg), Fundamentals, Impedance	
	Harmonics, THD, TIF, THF, TRD, TDD	
	Integrated Values, Datalog, Sum and Neutral values	
Datalog - Up to 4 user selectable measurement functions (30 with optional PC software)		
Datalog Window	No-Gap analysis, Minimum window 2ms	
Memory	10M records into flash RAM (Non-Volatile)	
Communication Ports		
RS232	Baud rate up to 38.4kbps,RTS/CTS flow control	
LAN	(Fitted as standard) 10/100 Base-T Ethernet auto sensing	
GPIB	(Fitted as standard) IEEE488.2 Compatible	
USB	USB 2.0 and 1.1 compatible	
Analogue Output	Bipolar ±10V(BNC)	
Speed Input	BNC Bipolar±10V 0.05% Rdg + 0.05% Rng or Pulse count 1Hz to 1MHz 0.01% Rdg	
Torque	BNC Bipolar±10V or Pulse count 1Hz to 1MHz 0.01% Rdg	
Sync	4 ~ 6 Phase measurement (Master/Slave)	
Extension	4 ~ 6 Phase (Master/Slave) + Auxillary	
Standard Accessories		
Leads	Power, RS232, USB, GPIB	
Connection Cables	36A 1.5m long 4mm stackable terminals 1x red, 1x yellow and 2x black per phase (1x red, 1x black with HC version)	
Connection Clips	4mm terminated alligator clips - 1x red, 1x yellow and 2x black per phase (1x red and 1x black per phase with HC version)	
CD-ROM	CommView2 (RS232/USB/LAN), Command line, Script based communication software	
Documents	User manual, Communications manual, Calibration certificate, Quick start guide	
Mechanical/Environmental		
Display	320x240 dot full colour TFT, White LED Backlit	
Dimensions	130Hx400Wx315D mm excluding feet	
Weight	5.4kg(1 Phase), 6kg(3 Phase)	
Safety Isolation	1000Vrms or DC(CATII), 600Vrms or DC(CATIII)	
Power supply	90 ~ 265Vrms, 50 ~ 60Hz, 40VAmx	
Operating Conditions	23°C ± 5°C Ambient Temperature (or air intake temperature when rack mounted), 20-90% Non-Condensing Relative Humidity. Temperature coefficient ±0.01% per °C of reading at 5-18°C and 28-40°C	

SPECIFICATION

Harmonic Specification	
Bandwidth	DC,10mHz ~ 2MHz DC,10mHz ~ 1MHz
No. of Harmonics	417
Sampling Frequency	2Ms/s
Signal Processing	DFT (Discreet Fourier Transform)
Crest Factor	20
Power Factor	0 to 1
Harmonic Accuracy	
Voltage and Current	0.01% Rdg+0.038% Rng+(0.004%*kHz)+5mV
Harmonic Accuracy (above) still applies with any Frequency Filter set	
IEC61000 Harmonic Accuracy	
Voltage and Current	0.2% Rdg+0.038% Rng+(0.004%*kHz)+5mV
Cycle by Cycle Analysis direct to PC - 2Ms/s sample rate (Window setting)	
Data Rate	5ms
Cycle by Cycle Analysis direct to Internal RAM - 2Ms/s sample rate	
Data Rate	2ms
Voltage Attenuator Overload Capability	
20ms	4.2kVpk (3kVrms)
5s	3.1kVpk (2.2kVrms)
Continuous	3kVpk (1kVrms)
Minimum Current Measurement at Full Accuracy	
700uArms	

ACCESSORIES

Leads and Interfacing	
Type	Specification
36A Connection lead set	1.5 Meter - 36A lead set with 4mm stackable safety terminals 1x Red, 1x Yellow and 2x Black per phase plus alligator clips
36A 4mm to spade (Option)	1.5 Meter - 36A lead set with 4mm to spade for HC terminals
RS232 cable	RS232 9pin serial Cable
USB cable	USB 2 Meter A male to B male
USB to 9-pin RS232 (Option)	USB ~ 9-pin RS232 Serial Converter
GPIB Cable	GPIB Interface Cable