

3196 Power Quality Analyzer Cross-Reference Table 1

	HIOKI 3196	Dranetz PP4300	LEM MEMOBOX 800Q	LEM TOPAS1000
Measurement	1p2w to 3p4w	1p2w to 3p4w	No	Uncertain
Voltage measurement	4ch (AC) ch1 to ch3 differential ch4 isolated (AC or DC) (to other channels)	4ch (AC) Differential	4ch (AC)	4ch (AC) isolated
Transient	2000Vpk	1000Vpk	Unknown	6000Vpk
Current measurement	4ch (Clamps)	4ch	4ch (AC)	4ch (Clamps)
Flexible CT	5000A (to be released in November 2001)	2000A	2000A	2000A
Fundamental frequency	42.5 to 69Hz	35 to 60Hz	5 to 2500Hz	45 to 65Hz
Sampling rate	PLL (256points/cycle) 2MHz (Transient to	PLL (128points/cycle) 1MHz (Transient)	10.24kHz	6.4kHz 10MHz (Transients)
Resolution	16 bits (RMS) 12 bits (Transient)	12 bits (RMS) 12 bits (Transients)	12 bits	16 bits (RMS) Unknown (Transient)
Measurement items 1	Transient (WAVE View) Swell Dip Interruption	Transient Swell Dip Interruption	Swell Dip Interruption	Transient Swell Dip Interruption
Measurement items 2	Watts, VA, var, PF, DPF Frequency K factor Unbalance	Watts, VA, var, PF Frequency K factor Unbalance	Frequency Unbalance	Watts, VA, var, PF Frequency Unbalance
Harmonics	Yes	Yes	Yes	Yes
Interharmonics	Yes	No	Yes	Yes
UIE flicker	Yes (to be released in December 2001)	No	Yes	Yes
Waveform	Yes	Yes	Uncertainty	Yes
Phasor	Yes	Yes	Uncertainty	Yes
Event monitor & list	Yes	Yes	Yes	Yes
Delta -Y conversion	Yes	No	No	No
Time plot recording	Yes 1 month	Yes 10 days	Yes 7 days	Uncertain
Internal memory capacity	13MB	280kB	512kB	1GB
Display	TFT Color Display 640 x 480 dots	LCD 240 x 128 dots	No	No
External memory	PC Card (ATA flash) Up to 528MB	PC Card (SRAM card) Up to 4MB	No	No
Interface	RS-232C 10BASE-T	RS-232C	RS-232C	RS-232C LAN Modem
HTTP server function	Yes	No	No	No
Application software	Yes (to be released in December 2001)	Yes	Yes	Yes
Standards	IEEE1159	IEEE1159	EN50160	IEEE1159 EN50160
Mass and dimension	298W x 215H x 67Dmm 2.0kg	300W x 203H x 64Dmm 1.8kg	282W x 216H x 74Dmm 3.1kg	300W x 325H x 65Dmm 4.0kg
Power supply	AC (Ni-MH Battery)	AC (Ni-cd Battery)	AC (230V, 50Hz only)	AC or DC

3196 Power Quality Analyzer Cross-Reference Table 2

	HIOKI 3196	Chauvin&Arnoux 8350	Fluke 43B	Dewetron PNA-3000
Measurement	1p2w to 3p4w	1p2w to 3p4w	1p2w	1p2w to 3p4w
Voltage measurement	4ch (AC) ch1 to ch3 differential ch4 isolated (AC or DC) (to other channels)	4ch (AC)	1ch (AC+DC)	4ch Isolated
Transient	2000Vpk		1250kV	2000Vp-p
Current measurement	4ch (Clamps)	4ch (Clamps)	1ch (Clamps AC+DC)	4ch
Flexible CT	5000A (to be released in November 2001)	3000A		
Fundamental frequency	42.5 to 69Hz		40 to 70Hz	
Sampling rate	PLL (256points/cycle) 2MHz (Transient to	6.4kHz 25kHz (Transient)	25MS/s	80kHz
Resolution	16 bits (RMS) 12 bits (Transient)			12 bits (16 bits optional)
Measurement items 1	Transient (WAVE View) Swell Dip Interruption	Transient	Transient Swell Dip	Transient Swell Dip Interruption
Measurement items 2	Watts, VA, var, PF, DPF Frequency K factor Unbalance	Watts, VA, var, PF Frequency	Watts, VA, var, PF, DPF Frequency K factor	Watts, VA, var, PF Frequency
Harmonics	Yes	Yes	Yes	Yes
Interharmonics	Yes	No	No	Yes
UIE flicker	Yes (to be released in December 2001)	Yes	No	Yes
Waveform	Yes	Yes	Yes	Yes
Phasor	Yes	Yes	Yes	Yes
Event monitor & list	Yes	No	Yes	Yes
Delta -Y conversion	Yes			No
Time plot recording	Yes 1 month	Yes	Yes 16 days	
Internal memory capacity	13MB	128MB		128MB
Display	TFT Color Display 640 x 480 dots	Color Display	LCD	Color Display
External memory	PC Card (ATA flash) Up to 528MB	HDD (6GB)		FDD HDD (4GB)
Interface	RS-232C 10BASE-T	USB (Keyboard & Mouse)	RS-232C	RS-232C LAN
HTTP server function	Yes	No	No	No
Application software	Yes (to be released in December 2001)	Yes	Yes	Yes
Standards	IEEE1159	EN50160 EN60868		EN50160
Mass and dimension	298W x 215H x 67Dmm 2.0kg	360W x 300H x 150Dmm 4kg	232W x 115H x 50Dmm 1.1kg	372W x 238H x 150Dmm 5.5kg
Power supply	AC (Ni-MH Battery)	AC	AC Battery (NiCd)	AC or DC

3196 Power Quality Analyzer Cross-Reference Table 3

	HIOKI 3196	RPM 901/902	RPM 1650+1651+1652+1653	METREL Power Harmonic
Measurement	1p2w to 3p4w	1p2w to 3p4w	1p2w to 3p4w	
Voltage measurement	4ch (AC) ch1 to ch3 differential ch4 isolated (AC or DC) (to other channels)	3ch (AC)	3ch (AC)	3ch
Transient Current measurement	2000Vpk	6000Vpk	1000Vpk (option 1651)	
Flexible CT	4ch (Clamps)	5ch (Clamps)	5ch (Clamps)	3ch
Fundamental frequency	5000A (to be released in November 2001)	5000A	5000A	
Sampling rate	42.5 to 69Hz	45 to 65Hz	45 to 65Hz	43 to 68Hz
Resolution	PLL (256points/cycle) 2MHz (Transient to 0.5us)	128 or 640points/cycle	128points/cycle (7.8kHz) Transients to 130us (1651)	
Measurement items 1	16 bits (RMS) 12 bits (Transient)	20 bits	14 bits (RMS) 10 bits (Transients)	
Measurement items 2	Transient (WAVE View) Swell Dip Interruption	Transients to 130 or 25us Swell Dip	Transients Swell Dip	
Harmonics	Watts, VA, var, PF, DPF Frequency K factor Unbalance	Watts, VA, var, PF Frequency	Watts, VA, var, PF Frequency	Watts, VA, var, PF Frequency
Interharmonics	Yes	Yes	Yes	Yes
UIE flicker	Yes	No	No	No
Waveform	Yes (to be released in December 2001)	Yes	Yes	No
Phasor	Yes	Yes	Yes	Yes
Event monitor & list	Yes	Yes	Yes	No
Delta -Y conversion	Yes	Yes	Yes	Yes
Time plot recording	Yes 1 month	Yes	Yes	Yes
Internal memory capacity	Yes	Yes	Yes	Yes
Display	13MB	Yes	4MB	2MB
External memory	TFT Color Display 640 x 480 dots	No	No	LCD 160 x 116 dots
Interface	PC Card (ATA flash) Up to 528MB	No	540MB HDD	
HTTP server function	RS-232C 10BASE-T	Serial Ethernet PR Link	10BASE-T Parallel (optional)	RS-232C
Application software	Yes	No	No	No
Standards	Yes (to be released in December 2001)	Yes	Yes	Yes
Mass and dimension	IEEE1159			
Power supply	298W x 215H x 67Dmm 2.0kg	260W x 220H x 87Dmm 3.4kg	212W x 300H x 75Dmm 6kg	265W x 110H x 185D 2.1kg
	AC (Ni-MH Battery)	AC or DC	AC	AC (Battery)