YOKOGAWA

Clamp-on Testers

CL Series and 30031 of Clamp-on Testers

Our CL Series offers wide range of current measurement

- AC Current Measurement CL120/130/135/150/155
- AC/DC Current Measurement CL220/235/250/255
- Leakage Current Measurement CL320/340/345/360

CE

Yokogawa Meters & Instruments Corporation

Bulletin CL-E

Selection Guide

■ For AC Current

Model		CL120	CL130	CL135	CL150	CL155	Notes
Diameter of measurable conductor		ø24mm	ø30mm	ø30mm	ø54mm	ø54mm	
Display		1999	1999	1999	3999	3999	
DC current	Range	—	—	—	—	—	
	Resolution	—	—	—	—	—	
AC current	Range	20/200A	200/600A	200/600A	400/2000A	400/2000A	
	Resolution	0.01A	0.1A	0.1A	0.1A	0.1A	
	Frequency characteristics	40~1kHz	40~1kHz	40~1kHz	40~1kHz	40~1kHz	
	Method of detection	Mean value	Mean value	True RMS	Mean value	True RMS	
Other measurement	AC voltage	—	○	○	○	○	
	DC voltage	—	—	—	○	○	
	Continuity check	—	○	○	○	○	
	Frequency	—	—	—	—	—	
	Temperature	—	—	—	—	—	
Other functions	Recorder output	—	—	—	○	○	
	Waveform monitor output	—	—	—	—	—	
	Data hold	○	○	○	○	○	
	Auto hold	—	—	—	—	—	
	Peak hold	—	—	—	○	○	
	maximum value memory	—	—	—	—	—	
	Mean value display	—	—	—	—	—	
	Filter	—	—	—	—	—	
	Range hold (current range)	○	○	○	○(current range)	○(current range)	
	Auto ZERO adjust	—	—	—	—	—	
	Auto power-off	○	—	—	△	△	△:Sleep function (power-down)
Page		1	1	2	2	3	

■ For AC/DC Currents

Model		CL220	CL235	CL250	CL255	Notes
Diameter of measurable conductor		ø24mm	ø33mm	ø55mm	ø55mm	
Display		3999	3999	3999	3999	
DC current	Range	40/300A	400/1000A	400/2000A	400/2000A	
	Resolution	0.01A	0.1A	0.1A	0.1A	
AC current	Range	40/300A	400/600A	400/2000A	400/2000A	
	Resolution	0.01A	0.1A	0.1A	0.1A	
	Frequency characteristics	20~1kHz	40~1kHz	40~1kHz	30~1kHz	
	Method of detection	Mean value	True RMS	Mean value	True RMS	
Other measurement	AC voltage	—	○	○	○	
	DC voltage	—	○	○	○	
	Continuity check	—	○	○	○	
	Frequency	—	○	—	○	
	Temperature	—	—	—	—	
Other functions	Recorder output	—	—	○	○	
	Waveform monitor output	—	—	—	—	
	Data hold	○	○	○	○	
	Auto hold	—	—	—	—	
	Peak hold	—	○	—	○	
	maximum value memory	—	—	○	—	
	Mean value display	—	○	—	○	
	Filter	—	—	—	—	
	Range hold (current range)	—	—	○(current range)	—	
	Auto ZERO adjust	○	○	○	○	
	Auto power-off	△	△	△	△	△:Sleep function (power-down)
Page		4	4	5	5	

■ For Leakage Current

Model		CL320	CL340	CL345	CL360	30031	Notes
Diameter of measurable conductor		ø24mm	ø40mm	ø40mm	ø68mm	ø40mm	
Display		1999	3999	4200	1999	3200	
DC current	Range	—	—	—	—	—	
	Resolution	—	—	—	—	—	
AC current	Range	20/200mA,200A	40/400mA,400A	40/400mA,400A	200mA/2/20/200/1000A	3/30mA 30/60A	
	Resolution	0.01mA	0.01mA	0.01mA	0.1mA	0.001mA	
	Frequency characteristics	40~400Hz	20~1kHz	20~1kHz	40~1kHz	50/60Hz	
	Method of detection	Mean value	Mean value	True RMS	Mean value	Mean value	
Other measurement	AC voltage	—	—	—	—	—	
	DC voltage	—	—	—	—	—	
	Continuity check	—	—	—	—	—	
	Frequency	—	—	—	—	—	
	Temperature	—	—	—	—	—	
Other functions	Recorder output	—	—	—	○	—	
	Waveform monitor output	—	—	—	○	—	
	Data hold	○	○	○	○	○	
	Auto hold	—	—	—	—	—	
	Peak hold	—	○	○	○	—	
	maximum value memory	—	—	—	—	—	
	Mean value display	—	—	—	—	—	
	Filter	○	○	○	○	—	
	Range hold (current range)	○	○	○	○	—	
	Auto ZERO adjust	—	—	—	—	—	
	Auto power-off	○	○	○	—	○	
Page		6	6	7	7	8	

Clamp-on Testers

CL120

AC A

⌀24

AC/20~200A

CL120

- Light weight & compact design
- Mean value display
- Data hold function
- Approved for comformity to safety standards EN61010-1, EN61010-2-032 (CAT. III 300 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
AC current	20A	2.0+7 (50～1kHz)
	200A	2.0+5 (50/60Hz) 3.0+10 (40～1kHz)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:1999 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range
Data hold	On all range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	0.8A or less at 400A/m
Influence of conductor position	±2% or less
Safety standard	Conforms EN 61010-1, EN61010-2-032
Circuit voltage	300Vrms or less
Withstanding voltage	3.7kV AC for one minute
Power supply	LR-44 ×2(3V) or SR-44 ×2
Battery life	Approx. 100 hours (continuous)
Consumed current	Approx. 1mA
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	24mm at maximum
Dimensions	Approx. 59(W)×148(H)×26(D)mm
Weight	Approx. 100g
Accessories	User's manual(IM CL120), batteries, carrying case(93033)

CL130

AC A

⌀30

AC/200~600A

AC V/Ω

CL130

- Mean value display
- Data hold function
- Approved for comformity to safety standards EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. III 600 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
AC current	200A	1.5+6 (50/60Hz)
		2.0+5 (40～1kHz)
	600A	1.0+3 (50/60Hz)
		2.0+5 (40～1kHz)
AC voltage	200V/600V	1.0+2 (50/60Hz)
		1.5+4 (40～1kHz)
Resistance	200Ω	1.2+4 , Beeps at below 30Ω(continuity check)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:1999 counts)
Response time	Approx. 1 second (approx. 2 seconds on resistance renge)
Range switching	Manual-range
Data hold	On all range
Ambient temperature and humidity	-10-50℃, (no condensation)
	up to 30℃, 90%RH
	up to 40℃, 75%RH
	up to 50℃, 45%RH
Temperature coefficient	—
Influence of external magnetic field	2A or less at 400A/m
Influence of conductor position	±2% or less
Safety standard	Conforms EN 61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	600Vrms or less
Withstanding voltage	5.55kV AC for one minute
Power supply	6F22(006P)9V ×1 or 6LR61 ×2
Battery life	Approx. 200 hours (continuous)
Consumed current	Approx. 2mA
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	30mm at maximum
Dimensions	Approx. 93(W)×210(H)×40(D)mm
Weight	Approx. 400g
Accessories	User's manual(IM CL130), batteries, carrying case(93032)

Clamp-on Testers

CL135

- AC A
- ⌀30
- AC/200~600A
- RMS
- AC V/Ω

CL135

- True RMS Display
- Data hold function
- Approved for comformity to safety standard EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. III 600 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
AC current	200A	1.5+4 (50/60Hz)
		2.0+5 (40～1kHz)
	600A	1.5+4 (50/60Hz)
		2.0+5 (40～1kHz)
AC voltage	200V/600V	1.0+2 (50/60Hz)
		1.5+4 (40～1kHz)
Crest factor	40A	≦3 (50/60Hz)
Resistance	200Ω	1.2+4 , Beeps at below 30Ω(continuity check)

■General Specifications

Parameter	Specification
Method of detection	True RMS
Display	LCD(Digital display:1999 counts)
Response time	Approx. 1 second (approx. 2 seconds on resistance renge)
Range switching	Manual-range
Data hold	On all range
Ambient temperature and humidity	-10-50℃, (no condensation)
	up to 30℃, 90%RH
	up to 40℃, 75%RH
	up to 50℃, 45%RH
Temperature coefficient	—
Influence of external magnetic field	2A or less at 400A/m
Influence of conductor position	±3% or less
Safety standard	Conforms EN61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	600Vrms or less
Withstanding voltage	5.55kV AC for one minute
Power supply	6F22(006P)9V ×1 or 6LR61 ×2
Battery life	Approx. 200 hours (continuous)
Consumed current	Approx. 2mA
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	30mm at maximum
Dimensions	Approx. 93(W)×210(H)×40(D)mm
Weight	Approx. 400g
Accessories	User's manual(IM CL130), batteries, carrying case(93032)

CL150

- AC A
- ⌀54
- AC/400~2000A
- AC V/DC V/Ω

CL150

- Mean value display
- DC output function
- Data hold function
- Sleep function
- Approved for comformity to safety standards EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. III 600 V, CAT. II 1000 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
AC current	400A	1.0+3 (50/60Hz)
		2.0+3 (40～1kHz)
	2000A(0～1500A)	1.0+3 (50/60Hz)
		3.0+3 (40～1kHz)
	2000A(1500～2000A)	3.0(50/60Hz)
AC voltage	40/400/750V	1.0+2 (50/60Hz)
		1.5+3 (40～1kHz)
DC voltage	40/400/1000V	1.0+2
Resistance	400/4k/40k/400kΩ	1.5+2 , Beeps at below 50±35Ω(continuity check)
DC output	400A(0～400mV)	±1.5% rdg ±0.5mV (50/60Hz)
		±2.5% rdg ±0.5mV (40～1kHz)
	2000A(0～150mV/0～1500A)	±1.5% rdg ±0.5mV (50/60Hz)
		±3.5% rdg ±0.5mV (40～1kHz)
	2000A(150～200mV/1500～2000A)	±3.5% rdg (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:3999 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range(on AC current range)/ Auto-range(on AC voltage range, resistance range)
Data hold	On all range
Peak hold	On AC current range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	1A or less at 400A/m
Influence of conductor position	±(2.0% rdg + 3dgt) or less
Safety standard	Conforms EN61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	1000Vrms or less
Withstanding voltage	5.55kV AC for one minute
Power supply	R6P(SUM-3) ×2 or LR6 ×2
Battery life	Approx. 150 hours (continuous)
Consumed current	Approx. 5mA
Sleep function	Automatically powered down in about 10 minutes after the last switch operation
Diameter of measurable conductor	54mm at maximum
Dimensions	Approx. 105(W)×247(H)×49(D)mm
Weight	Approx. 470g
Accessories	User's manual(IM CL150), batteries, carrying case(93034)

Clamp-on Testers

CL155

AC A

⌀54

AC/400~2000A

RMS

AC V/DC V/Ω

CL155

- True RMS display
- DC output function
- Data hold function
- Sleep function
- Approved for comformity to safety standards EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. IV 300 V, CAT. III 600 V, CAT. II 1000 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
AC current	400A	1.0+3 (50/60Hz)
		2.0+3 (40～1kHz)
	2000A(0～1500A)	1.0+3 (50/60Hz)
		3.0+3 (40～1kHz)
	2000A(1500～2000A)	3.0(50/60Hz)
AC voltage	40/400/750V	1.0+2 (50/60Hz)
		1.5+3 (40～1kHz)
DC voltage	40/400/1000V	1.0+2
Resistance	400/4k/40k/400kΩ	1.5+2 , Beeps at below 50±35Ω(continuity check)
DC output	400A(0～400mV)	±1.5% rdg ±0.5mV (50/60Hz)
		±2.5% rdg ±0.5mV (40～1kHz)
	2000A(0～150mV/0～1500A)	±1.5% rdg ±0.5mV (50/60Hz)
		±3.5% rdg ±0.5mV (40～1kHz)
	2000A(150～200mV/1500～2000A)	±3.5% rdg (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	True RMS
Display	LCD(Digital display:3999 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range(on AC current range)/ Auto-range(on AC voltage range, resistance range)
Data hold	On all range
Peak hold	On AC current range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	–
Influence of external magnetic field	1A or less at 400A/m
Influence of conductor position	±(2.0% rdg + 3dgt) or less
Safety standard	Conforms EN61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	1000Vrms or less
Withstanding voltage	5.32kV AC for one minute
Power supply	R6P(SUM-3) ×2 or LR6 ×2
Battery life	Approx. 80 hours (continuous)
Consumed current	Approx. 7mA
Sleep function	Automatically powered down in about 10 minutes after the last switch operation
Diameter of measurable conductor	54mm at maximum
Dimensions	Approx. 105(W)×247(H)×49(D)mm
Weight	Approx. 470g
Accessories	User's manual(IM CL150), batteries, carrying case(93034)

Clamp-on Testers

CL220

AC A/DC A

Ø24

AC/40~300A

DC/40~300A

CL235

AC A/DC A

Ø33

AC/400~600A

RMS

DC/400~1000A

DC V/AC V/ Ω /Hz

CL220

- Light weight & compact design
- Mean value display
- Sleep function
- Approved for comformity to safety standards EN61010-1, EN61010-2-032 (CAT. III 300 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
DC current	40A	1.0+4
	300A(±20～±200A)	1.5+4
	300A(±200～±300A)	3.0
AC current	40A	1.0+4 (50/60Hz)
		2.5+4 (20～1kHz)
	300A(20～200A)	1.5+4 (50/60Hz)
		2.5+4 (20～1kHz)
	300A(200～300A)	3.5 (50/60Hz)
		4.0 (20～1kHz)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:3999 counts)
Response time	Approx. 2 seconds
Range switching	Auto-range
Data hold	On all range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	1A or less at 400A/m
Influence of conductor position	±(2.0% rdg + 5dgt) or less
Safety standard	Conforms EN61010-1, EN61010-2-032
Circuit voltage	300Vrms or less
Withstanding voltage	3.7kV AC for one minute
Power supply	LR-44 ×2(3V) or SR-44 ×2
Battery life	Approx. 11 hours (continuous)
Consumed current	Approx. 9mA
Sleep function	Automatically powered down in about 5 minutes after the last switch operation
Diameter of measurable conductor	24mm at maximum
Dimensions	Approx. 59(W)×147(H)×25(D)mm
Weight	Approx. 100g
Accessories	User's manual(IM CL220), batteries, carrying case(93033)

CL235

- True RMS display
- Sleep function
- Data hold function
- Approved for comformity to safety standards EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. III 600 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
AC current	400/600A	1.5+5 (50/60Hz)
		3.5+5 (40～1kHz)
DC current	400/1000A	1.0+5
AC voltage	40/400/600V	1.5+5 (50/60Hz)
		3.5+5 (40～1kHz)
DC voltage	40/400/600V	1.0+5
Crest factor		≦3
Resistance	400/4000Ω	1.0+5 , Beeps at below 20Ω(continuity check)
Frequency	10～3000Hz	1.5+5

■General Specifications

Parameter	Specification
Method of detection	True RMS
Display	LCD(Digital display:3999 counts)
Response time	Approx. 2 second
Range switching	Auto-range
Data hold	On all range
Peak hold	On AC/DC current range, AC/DC voltage range
Average measurement	—
Ambient temperature and humidity	0-40℃, 90% RH or less (no condensation)
Temperture coefficient	—
Influence of external magnetic field	—
Influence of conductor position	±2% or less
Safety standard	Conforms EN61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	600Vrms or less
Withstanding voltage	5.55kV AC for one minute
Power supply	6F22(006P)9V ×1 or 6LR61 ×1
Battery life	Approx. 15 hours (continuous)
Consumed current	Approx. 15mA
Sleep function	Automatically powered down in about 30 minutes after the last switch operation
Diameter of measurable conductor	33mm at maximum
Dimensions	Approx. 91(W)×210(H)×40(D)mm
Weight	Approx. 450g
Accessories	User's manual(IM CL235), batteries, carrying case(93032)

Clamp-on Testers

CL250

AC A/DC A
Ø55
AC/400~2000A
DC/400~2000A
AC V/DC V/Ω

CL250

- Mean value display
- Sleep function
- Data hold function
- Approved for comformity to safety standards EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. III 600 V, CAT. II 1000 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
DC current	400/2000A	1.5+2
AC current	400A/2000A(0～1000A)	1.5+2 (50/60Hz)
		3.0+4 (40～500Hz)
		5.0+4 (500～1kHz)
	2000A(1001～2000A)	3.0+2 (50/60Hz)
DC voltage	400/1000V	1.0+2
AC voltage	400/750V	1.5+2 (50/60Hz)
		1.5+4 (40～1kHz)
Resistance	400/4000Ω	1.5+2 , Beeps at below 50±35Ω(continuity check)
DC output	DC400A(0～400mV)	±1.5% rdg ±3mV
	DC2000A(0～200mV)	±1.5% rdg ±3mV
	AC400A(0～400mV) AC2000A(0～100mV/0～1000A)	±1.5% rdg ±3mV (50/60Hz)
		±3.0% rdg ±3mV (40～500Hz)
		±5.0% rdg ±3mV (500～1kHz)
	AC2000A(100.1～200mV/1001～2000A)	±3.0% rdg ±3mV (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:3999 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range(on current, voltage range) /Auto-range(on resistance range)
Peak hold	On all range
Max hold	On current/voltage range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	4A or less at 400A/m
Influence of conductor position	±(1.5% rdg + 3dgt) or less
Safety standard	Conforms EN61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	1000Vrms or less
Withstanding voltage	5.55kV AC for one minute
Power supply	R6P(SUM-3) ×2 or LR6 ×2
Battery life	Approx. 100 hours (continuous)
Consumed current	Approx. 9mA
Sleep function	Automatically powered down in about 10 minutes after the last switch operation
Diameter of measurable conductor	55mm at maximum
Dimensions	Approx. 105(W)×250(H)×49(D)mm
Weight	Approx. 530g
Accessories	User's manual(IM CL250), Test Lead(98011), Output plug(98012), batteries, carrying case(93034)

CL255

AC A/DC A
Ø55
AC/400~2000A
DC/400~2000A
RMS
AC V/DC V/ Ω /Hz

CL255

- True RMS display
- Sleep function
- Data hold function
- Approved for comformity to safety standards EN61010-1, EN61010-2-031, EN61010-2-032 (CAT. III 600 V, CAT. II 1000 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy
DC current	400/2000A	1.5+2
AC current	400A/2000A(150～1700A)	1.5+3 (50/60Hz)
		3.0+4 (30～1kHz)
	2000A(1701～2000A)	3.5+3 (50/60Hz)
DC voltage	40/400/1000V	1.0+2
AC voltage	40/400/750V	1.5+3 (50/60Hz)
		2.0+4 (30～1kHz)
Crest factor		≦3
Resistance	400/4000Ω	1.5+2 , Beeps at below 20Ω(continuity check)
Frequency	10～3999Hz	1.5+5
DC output	DC400A(0～400mV)	±1.5% rdg ±3mV
	DC2000A(15～200mV)	±1.5% rdg ±3mV
	AC400A(0～400mV) /AC2000A(15～170mV/150～1700A)	±1.5% rdg ±3mV (50/60Hz)
		±3.0% rdg ±3mV (40～1kHz)
	AC2000A(170.1～200mV/1701～2000A)	±3.5% rdg ±3mV (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	True RMS
Display	LCD(Digital display:3999 counts)
Response time	Approx. 1 second(on DC current/voltage range), Approx. 2 seconds(AC current/voltage range, resistance range)
Range switching	Auto-range
Data hold	On all range (without peak hold)
Peak hold	On current/voltage range
Average Measeurement	On current/voltage range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	4A or less at 400A/m
Influence of conductorposition	±(1.5% rdg + 3dgt) or less
Safety standard	Conforms EN61010-1, EN61010-2-031, EN61010-2-032
Circuit voltage	1000Vrms or less
Withstanding voltage	5.55kV AC for one minute
Power supply	6F22(006P)9V ×1 or 6LR61 ×1
Battery life	Approx. 15 hours (continuous)
Consumed current	Approx. 15mA
Sleep function	Automatically powered down in about 10 minutes after the last switch operation
Diameter of measurable conductor	55mm at maximum
Dimensions	Approx. 105(W)×250(H)×49(D)mm
Weight	Approx. 540g
Accessories	User's manual(IM CL255), Test Lead(98011), Output plug(98012), batteries, carrying case(93034)

Leakage Clamp-on Testers

CL320

AC Leak

⌀24

AC/20mA~200A

CL320

- Mean value display
- Auto power-off
- Manual range switching
- Approved for comformity to safety standards EN61010-1, EN61010-2-032(CAT. III 300 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy	
		WIDE(40～400Hz)	50/60Hz
AC current	20mA/200mA 200A(0～100A)	2.0+4 (50/60Hz) 5.0+6 (40～400Hz)	3.0+5 (50/60Hz)
	200A(100.1～200A)	5.0+4 (50/60Hz)	5.0+5 (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:1999 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range
Data hold	On all range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	10mA or less in proximity to a 14.4mm-dia conductor carrying 100A
Influence of conductor position	Within 5dgt for 0 to 50A, or 2% for 50 to 200A (10mm-dia conductor at inside the jaw)
Influence of residual current	10mA or less in proximity to a 10mm-dia conductor carrying 50A
Safety standard	Conforms EN61010-1, EN61010-2-032
Circuit voltage	300Vrms or less
Withstanding voltage	3.7kV AC for one minute
Power supply	LR-44 ×2(3V) or SR-44 ×2
Battery life	Approx. 15 hours (continuous)
Consumed current	Approx. 5mA
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	24mm at maximum
Dimensions	Approx. 60(W)×149(H)×26(D)mm
Weight	Approx. 120g
Accessories	User's manual(IM CL320), batteries, carrying case(93033)

CL340

AC Leak

⌀40

AC/40mA~400A

CL340

- Mean value display
- Auto power-off
- Manual range switching
- Approved for comformity to safety standards EN61010-1, EN61010-2-032 (CAT. III 300 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy	
		WIDE(20Hz～)	50/60Hz
AC current	40mA/400mA	2.5+10 (20～1kHz)	1.0+5 (50/60Hz)
	400A(0～350A)	2.5+10 (40～1kHz)	1.0+5 (50/60Hz)
	400A(350～400A)	5.0 (40～1kHz)	2.0 (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:3999 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range
Data hold	On all range
Peak hold	On all range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	10mA or less in proximity to a 15mm-dia conductor carrying 100A
Influence of conductor position	40/400mA range:Within 5dgt at every part inside the jaw400A range, 0 to 250A:Within ±0.5%rdg ±5dgt at every part inside the jaw section
Influence of residual current	12mA or less in proximity to a 10mm-dia conductor carrying 100A
Safety standard	Conforms EN61010-1, EN61010-2-032
Circuit voltage	300Vrms or less
Withstanding voltage	3.7kV AC for one minute
Power supply	R0-3(UM-4) × 2 or LR03 × 2
Battery life	Approx. 40 hours (continuous)
Consumed current	Approx. 13mA
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	40mm at maximum
Dimensions	Approx. 81(W)×185(H)×40(D)mm
Weight	Approx. 270g
Accessories	User's manual(IM CL340), batteries, carrying case(93030)

Leakage Clamp-on Testers

CL345

AC Leak

⌀40

AC/40mA~400A

RMS

CL345

- True RMS display
- Auto power-off
- Manual range switching
- Approved for comformity to safety standards EN61010-1, EN61010-2-032 (CAT. III 300 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy	
		WIDE(20Hz~)	50/60Hz
AC current	40mA/400mA	2.5+10 (20~1kHz)	1.0+5 (50/60Hz)
	400A(0~300A)	2.5+10 (40~1kHz)	1.0+5 (50/60Hz)
	400A(300~400A)	5.0 (40~1kHz)	2.0 (50/60Hz)

■General Specifications

Parameter	Specification
Method of detection	True RMS
Display	LCD(Digital display:4200 counts)
Response time	Approx. 2 seconds
Range switching	Manual-range
Data hold	On all range
Peak hold	On all range
Ambient temperature and humidity	0-40℃, 85% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	10mA or less in proximity to a 15mm-dia conductor carrying 100A
Influence of conductor position	40/400mA range:Within 5dgt at every part inside the jaw400A range, 0 to 250A:Within ±0.5%rdg ±5dgt at every part inside the jaw section
Influence of residual current	12mA or less in proximity to a 10mm-dia conductor carrying 100A
Safety standard	Conforms EN61010-1, EN61010-2-032
Circuit voltage	300Vrms or less
Withstanding voltage	3.7kV AC for one minute
Power supply	R0-3(UM-4) × 2 or LR03 × 2
Battery life	Approx. 24 hours (continuous)
Consumed current	Approx. 21mA
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	40mm at maximum
Dimensions	Approx. 81(W)×185(H)×32(D)mm
Weight	Approx. 270g
Accessories	User's manual(IM CL340), batteries, carrying case(93030)

CL360

AC Leak

⌀68

AC/200mA~1000A

CL360

- Approved for conformity to safety standards EN 61010-1, EN 61010-2-032 (CAT III 300 V)

■Specifications

At 23℃±5℃,75%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

Parameter	Reference	Accuracy	
		WIDE(40~1kHz)	50/60Hz
AC current	200mA/2A/20A	1.0+2 (50/60Hz) 3.0+2 (40~1kHz)	1.5+2
	200A	1.5+2 (50/60Hz) 3.5+2 (40~1kHz)	2.0+2
	1000A(0~500A)	1.5+2 (50/60Hz) 3.5+2 (40~1kHz)	2.0+2
	1000A(501~1000A)	5.0 (50/60Hz) 10.0 (40~1kHz)	5.5
AC output	200mA/2A/20A(0~200mV)	2.0	2.0
	200A(0~200mV)	2.5	2.5
	1000A/(0~50mV/0~500A)	3.0	3.0
	1000A/(50~100mV/501~1000A)	5.0	5.0
DC output	200mA/2A/20A(0~200mV)	3.0	3.5
	200A(0~200mV)	3.5	4.0
	1000A/(0~50mV/0~500A)	5.0	5.5
	1000A/(50~100mV/501~1000A)	7.0	7.5

■General Specifications

Parameter	Specification
Method of detection	Mean value
Display	LCD(Digital display:1999 counts)
Response time	Approx. 1 second
Range switching	Manual-range
Data hold	On all range
Peak hold	On all range
Ambient temperature and humidity	-10-50℃, 80% RH or less (no condensation)
Temperature coefficient	—
Influence of external magnetic field	15mA or less in proximity to a 10mm-dia conductor carrying 100A
Influence of conductor position	2% or less
Influence of residual current	10mA or less in proximity to a 10mm-dia conductor carrying 100A
Safety standard	Conforms EN61010-1, EN61010-2-032
Circuit voltage	300Vrms or less
Withstanding voltage	3.7kV AC for one minute
Power supply	6F22(006P)9V ×1 or 6LR61 ×1
Battery life	Approx. 60 hours (continuous)
Consumed current	Approx. 5mA
Diameter of measurable conductor	68mm at maximum
Dimensions	Approx. 129(W)×248(H)×55(D)mm
Weight	Approx. 570g
Accessories	User's manual(IM CL360), batteries, carrying case(93031)

Leakage Clamp-on Testers

30031

Compact

AC A 50/60Hz

3mA~60A

Ø40

AC Leakage

30031

- Can measure leakage currents of 1 mA, which is useful for checking the insulation of low-voltage circuits and electrical components.
- Can measure a broad range of currents from leakage currents (at a resolution of 0.001 mA) to load currents up to 60 A.
- Typical influence (on the current value of an adjacent cable) from an external magnetic field is 0.0005%.
- Durability of clamp: More than 50,000 opening/closing events
- Twice the torsional strength of Yokogawa M&C's earlier model clamps
- The clamp lever is lengthened by 30%, enabling smooth opening/closing of the clamp even for thick cables of 40mm in diameter.
- Approved for conformity to safety standards EN 61010-1 and EN 61010-2-032 (CAT III 300V, pollution degree2)

■Specifications

At 23°C±5°C,80%RH or less
Accuracy:±(% rdg + dgt) = ±(% readout + value of least significant digit)

AC current		3/30mA,30/60A
Frequency characteristics		50/60Hz
Accuracy*	50/60Hz	1.0 + 5 (0~30mA) 1.0 + 5 (0~50A) 5.0 + 5 (50~60A)

■General Specifications

Method of detection	Mean value
Display	LCD (Digital display: 3200 counts) (Bar-graph display: 32 segments)
Measurement cycle	2 times/second (Digital display), 12 times/second (Bar-graph display)
Range switching	Auto-range
Ambient temperature and humidity	0 - 50°C, 80% RH or less (no condensation)
Temperature coefficient	0.05% of range/°C or less(within the ranges of 0-18°C and 28-50°C for measurement of 0-50 A)
Influence of external magnetic field	0.0005% typical*1 (on current value of adjacent cable)
Influence of conductor position	Within accuracy
Circuit voltage	300 Vrms or less
Safety standard	Approved for conformity to EN 61010-1,EN 61010-2-032
Withstanding voltage	3.7 kV AC for one minute
Power supply	One CR2032 (Coin-shaped) 3 V battery
Battery life	Approx. 90 hours (when continuously used)
Auto power-off	Approx. 10 minutes
Diameter of measurable conductor	40 mm at maximum
Dimensions	Approx. 70(W)×176(H)×25(D) excluding protrusions
Weight	Approx. 200 g
Accessories	Instruction manual, battery, soft case

Clamp-on Testers

96001

20Hz~20kHz

AC A

Ø33

96001

- Compact and light with high-performance
- 20Hz to 20kHz wide frequency characteristics
- Can be connected to a digital multimeter
- Need not be connected to a power source
- Fit to waveform measurement using oscilloscopes and oscillographic recorders

■Specifications

Measuring range		0 to 400 A ACrms (600 A peak)
Output voltage		0 to 4 V ACrms (10mV/A)
Accuracy (at 23°C±5°C, sine wave input)	(amplitude)	±1.5% of rdg ±0.4mV (20Hz to 40Hz)
		±1.0% of rdg ±0.2mV (40Hz to 1kHz)
		±(0.8+0.2 × f kHz)% of rdg ±(0.2+0.04 × f kHz)mV (1 to 20kHz)
	(phase)	Within ±3.0°C (40Hz to 1kHz)
Temperature coefficient		0.05% fs/°C in a range of 0°C to 18°C and 28°C to 50°C
Output impedance		Approximately 30Ω
Load impedance		100kΩ min.//100 pF max.
Effect of external magnetic field		2mV(0.2A)or less at 400A/m
Voltage of circuit under measurement		600V ACrms maximum
Diameter of applicable conductor		Maximum diameter of 33 mm
Operating temperature and humidity limits		0°C to 50°C, 80% R.H. max.(non-condensing)
Storage temperature limits		-20°C to 60°C(non-condensing)
Withstanding voltage		3.7kV AC for one minute (core and case, and core and output terminals)
Safety		Conforms to IEC 1010.
External dimensions		Approximately 70(W)×130(H)×30(D)mm
Weight		Approximately 220g
Output cord length		Approximately 2.5 meters(with banana plug)
Accessories		One portable case and one instruction manual

Accessories

■ Supplementary Products

Item	Model	Specification	Applicable model
Carrying case	RB057	Soft type	30031

■ Optional Accessories

Item	Model	Specification	Applicable model
Output Cable for Terminal Screw	91019	Cable length: approx.1.1m	CL150,CL155 CL250,CL255
Output Cable with Banana Plug	91020	Cable length: approx.2.0m	CL360
Clamp Adapter	99025	Ratio/Range = 10:1/3000A	CL120,CL130,CL135,CL150, CL155,CL220,CL235,CL250, CL255,CL320,CL340,CL345

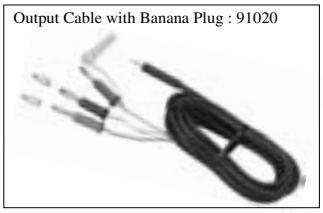
■ 99025 Specifications

Item	Specifications
Measuring Range	0～AC3000A
Ratio/Range	10:1 (input to output)
Accuracy	±2% of input ±0.5A
Allowable Measurement Time	0～1000A(continuous),1000～1500A(10 minutes max.), 3000A(30 seconds max.)
Conductor Size	φ100mm max. (100×150mm)
Frequency Response	50Hz/60Hz
Safety Standard	EN61010-1 CAT.III300V Pollution Degree 2
Withstand Voltage	AC3700V for 1 minute
Dimensions	150(W)×317(H)×33(D)mm 40(W)×45(H)×10(D)mm Output coil
Weight	Approx. 750g
Accessories	93035(Carrying Case)
For use with following models	

Clamp Adapter : 99025

Output Cable for Terminal Screw : 91019

Output Cable with Banana Plug : 91020



■ Supplementary Products

Item	Model	Specification	Applicable model
Test Lead	98010	Angle Plug type	CL130,CL135,CL235
Test Lead	98011	Straight Plug type	CL150,CL155,CL250,CL255
Output Pllug	98012	3pcs/set	CL150,CL155,CL250,CL255
Carrying Case	93030	Hard type	CL340,CL345
Carrying Case	93031	Soft type	CL360
Carrying Case	93032	Soft type	CL130,CL135,CL235
Carrying Case	93033	Soft type	CL120,CL220,CL320
Carrying Case	93034	Soft type	CL150,CL155,CL250,CL255
Carrying Case	93035	Hard type	99025

Test lead : 98010

Test lead : 98011

Output Plug : 98012

Carrying case : 93030

Carrying case : 93031

Carrying case : 93032

Carrying case : 93033

Carrying case : 93034

Carrying case : 93035

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

UK Office
Keison Products,
P.O. Box 2124, Chelmsford, Essex, CM1 3UP, England.
Tel: +44 (0)1245 600560
Fax: +44 (0)1245 600030
Email: sales@keison.co.uk