

2350 POWER SERIES

Selector Guide

DIGITAL PANEL INSTRUMENTS



YOKOGAWA

2350 POWER SERIES

The 2350 Power Series offers a full range of power measurement instruments with unsurpassed accuracy in a compact DIN case. Single function 3 1/2 digit panel meters are available in a 1/8 DIN case with optional isolated analog output and fixed zeros as display multipliers. The model 2354 multifunction meter and 2359 meter relay are supplied in a 1/4 DIN case and offer superior power measurement capability with transducer outputs. These panel instruments are designed to save valuable panel space and reduce wiring. The selector guide below will assist in finding the appropriate instrument for your application. General specifications are on the following page and ordering information can be found on pages 4 to 11.

Selector Guide

2350 POWER SERIES	MODEL basic code	MODEL sub code	RATED INPUTS	ACCURACY	FREQUENCY RANGE	OPERATING PRINCIPLE	ORDER INFO.	CONN. DIAGRAMS
DC VOLTMETER	2351	00	2V, 20V 200V, 600V	±0.1%	—	Dual slope integration	page 4	
AC VOLTMETER	2353	00	150V, 300V	±0.25%	40 Hz to 10 kHz	true rms	page 5	page 12
AC AMMETER	2353	00	1 Amp, 5 Amp			rectification		
MULTI FUNCTION	2354	01	150 & 300 V AC	±0.25%	45 Hz to 65 Hz	Time-division multiplication	page 6	page 15-16
		02	150V, 300V/1A, 5A					
		10	120, 240V/1A, 5A					
		20	Watt/Var/Amp/Volt					
		30	Power Factor					
		40	Frequency					
		90	150V AC/300V AC					
		90	1A AC/5A AC					
WATT	2355	10	120V, 240V/1A, 5A	±0.25%	40 Hz to 500 Hz	Time-division multiplication	page 7	pages 12-13
		20						
		30						
		40						
VAR	2356	10	120V, 240V/1A, 5A	±0.25%	45 Hz to 65 Hz	phase discrimination (zero-cross)	page 8	page 13
		20						
		30						
		40						
PHASE ANGLE	2357	10	300V AC/1A, 5A	±1.0°	45 Hz to 65 Hz	Multi-phase power ratio (MPU)	page 8	page 14
		20						
		30						
		40						
POWER FACTOR	2357	11	120V, 240V/1A, 5A	±0.015	45 Hz to 65 Hz	Multi-phase power ratio (MPU)	page 8	page 14
		21						
		31						
		41						
FREQUENCY	2358	00	60 - 300V AC	±0.05%	20.0 to 199.9 Hz	MPU and	page	page
The meter relay function is available for DC Volts, AC Amps, AC Volts, Watts, Vars, Phase Angle and Power Factor. A digital setting switch from 0-1999 is used for indication of high/low, high/high, low/low setpoints with dual SPDT relay output.								

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General Specifications

DISPLAY	Type: Digit height: Decimal points: Out of range indication: Conversion: Conversion type: Polarity:	3 1/2 digit Red Planar seven segment LED (±1999) 0.56 inch or 14mm Fixed 4 position selectable internally Flashing display. Except model 2358. Integration: 250 milliseconds nominal, sample rate: 2.5 times/sec. Dual slope integration with auto zero. Automatic " + " or " - " sign displayed or no polarity										
DISPLAY MULTIPLIER	<i>Optional</i> Type: Available as:	Available for models 2351, 2353, 2355, 2356 only Red Planar seven segment LED 1 fixed zero will display 19990 full scale, 2 fixed zeros will display 199900 f.s.										
AUXILIARY POWER	Choice of inputs: (see page 14)	100, 117, 220 or 240 VAC (±10%), 50-60 Hz, 4.5 VA maximum except 3P4W Watts and Vars with analog output and 2354 models										
INPUT RATING	AC Current: AC Voltage: DC Voltage: Frequency:	0 to 1 Amp AC; 0 to 5Amp AC; 0-10 Amp AC is a factory option 0-120VAC, 0-240 VAC (W/VAR/ PF/PA); 0-150VAC, 0-300VAC (Volt / Freq) Up to 600 Volts AC available as an option. Up to 600 Volts DC 50/60 Hz and 400 Hz										
INPUT RANGE	Rated current: Rated voltage:	A / W / VAR : 0-200% ; PF / PA : 20-200% V / W / VAR : 0-120% ; PF / PA : 50-120%; Frequency :20-120%										
SUSTAINED INPUT	Rated current: Rated voltage:	A / W / VAR / PF/ PA : 200% continuous, 10 x rating for 5 seconds V / W / VAR / FREQ : 120% continuous; PF / PA : 150% continuous										
BURDEN	Current: Voltage:	<0.1 VA per element 120V: <0.2VA per element; 240V: <0.4 VA per element										
ACCURACY	Reference condition 25°C, 45-74%RH, at rated input 60Hz sine wave, 30 min. warmup:	<table><tr><td>Voltage</td><td rowspan="4">} ± 0.25% ± 1 digit (DC voltage ± 0.1% rdg. ± 1 digit)</td></tr><tr><td>Current</td></tr><tr><td>Watt/Var</td></tr><tr><td>Power Factor</td><td>±0.015 Power factor + 1 digit</td></tr><tr><td>Phase Angle</td><td>±1.0° Phase Angle</td></tr><tr><td>Frequency</td><td>±0.05% of reading + 1 digit</td></tr></table>	Voltage	} ± 0.25% ± 1 digit (DC voltage ± 0.1% rdg. ± 1 digit)	Current	Watt/Var	Power Factor	±0.015 Power factor + 1 digit	Phase Angle	±1.0° Phase Angle	Frequency	±0.05% of reading + 1 digit
Voltage	} ± 0.25% ± 1 digit (DC voltage ± 0.1% rdg. ± 1 digit)											
Current												
Watt/Var												
Power Factor		±0.015 Power factor + 1 digit										
Phase Angle	±1.0° Phase Angle											
Frequency	±0.05% of reading + 1 digit											
ANALOG OUTPUT AND ISOLATION	<i>Optional</i> 0 to 1mA, 0 to ± 1mA: 4 to 20mA, 12 ± 8mA: 1 to 5V DC: 1mV / digit:	Into 10k ohm load maximum Into 500 ohm maximum Into 250 ohm minimum 2 V maximum into 100 ohm or greater Isolation between input and analog output is 2300 Volts (except 2351)										
OUTPUT RIPPLE		0.5% peak-to-peak maximum of output span										
DIELECTRIC VOLTAGE	Input to power supply: Input terminals to case:	2300 Volts AC for 1 minute (except 2351 is 1500 V AC) 2300 Volts AC for 1 minute (except 2351 is 1500 V AC)										
TEMPERATURE RANGE	Operating: Storage:	0 to +50° C between 5-85% relative humidity maximum (non-condensing) -20 to +70° C										
TEMPERATURE COEFFICIENT	DC Volts: All other:	< 50 PPM of reading / °C <250 PPM of full scale (or rated power) / °C										
WITHSTAND CAPABILITY	Impulse voltage: 4.5kV for 40 microseconds	Between: Power supply terminals and case, input and output terminals, input terminals and case										
MECHANICAL STRENGTH	Shock: Vibration:	X,Y,Z @ 50G x 5 X,Y,Z @ 16.7 Hz m/m for 20 minutes										
CASE	DIN Style	High impact polycarbonate (UL 94V-0)										
DIMENSIONS	Outline on pages 16 & 17	1/8 DIN W x D x H = 3.78 x 6.30 x 1.89", 1/4 DIN =3.78 x 6.30 x 3.78"										
WEIGHT	Meter with hardware:	2351, 2353, 2357 = 500 g, 2354 = 850 g, 2355, 2356, 2358 = 600 g										

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DC Volts



MODEL FORMAT: 235100 - - |

MODEL 235100

A	MAX. INPUT RATING
20	2 VOLTS DC.....
30	20 VOLTS DC.....
60	200 VOLTS DC.....
90	600 VOLTS DC.....
B	DISPLAY MULTIPLIER
1	NO FIXED ZEROS
2	1 FIXED ZERO
3	2 FIXED ZEROS
C	ANALOG OUTPUT
0	NO OUTPUT
1	1mV/DIGIT
2	5mV/DIGIT
3	1 TO 5V DC
4	0 TO 1mA DC
5	4 TO 20mA DC

2351 SPECIFICATIONS:

SIGNAL INPUT

Maximum input Voltage - ± 600 V DC or AC peak continuous without damage in the 2V DC range

Input impedance - Greater than 10 megohm

Filter - Active

Bias current- 10 picoamp nominal

Input terminal- Single ended

ACCURACY / STABILITY (warm up time 30 minutes)

Resolution - $\pm 0.05\%$

Accuracy - $\pm 0.1\%$ of reading ± 1 digit at rated operating conditions

Step response - Less than 400 milliseconds for rated accuracy for \pm full scale step input

Linearity - $\pm 0.5\%$

Range TEMPCO - Less than 50 ppm of reading / $^{\circ}\text{C}$

Zero stability - Less than 2 microvolts / $^{\circ}\text{C}$

POWER CONSUMPTION

Approximately 2.5 VA typical

SPECIAL SCALING

Specify display reading at full scale input if other than the maximum input value in "A". Ordering example as follows: "Similar to 235100-30-10 except 12 V DC =1200 counts on display and legend is PSI. . ."

Need assistance or have questions?

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AC RMS AMPS & VOLTS

MODEL FORMAT: 235300 -

A

 -

B

C



MODEL
235300

A	MAX. INPUT RATING
02	0 - 1 AMP AC
04	0 - 5 AMP AC
50	0 - 150 VOLTS AC
80	0 - 300 VOLTS AC
B	DISPLAY MULTIPLIER
1	NO FIXED ZEROS
2	1 FIXED ZERO
3	2 FIXED ZEROS
C	ANALOG OUTPUT
0	NO OUTPUT
1	1mV/DIGIT
2	5mV/DIGIT
3	1 TO 5 V DC
4	0 TO 1mA DC
5	4 TO 20mA DC

2353 SPECIFICATIONS:

SIGNAL INPUT

Input Voltage range - 150V or 300V RMS full scale (600 V AC available as a special)

Input Current range - 1A or 5A RMS full scale (10 A AC available as a special)

Maximum sustained input - Voltage 120% continuous; Current 200% continuous

Frequency range - 40 Hertz to 10 Kilohertz

Rated burden for measuring terminal - Voltage < 0.2VA ; Current < 0.1VA

Input terminal- Floating

ACCURACY / STABILITY (warm up time 30 minutes)

Resolution - $\pm 0.05\%$

Accuracy - $\pm 0.25\%$ of full scale ± 1 digit at rated operating conditions

Step response - Less than 1 second

Linearity - $\pm 0.1\%$

Range TEMPCO - Less than 250 ppm of full scale / $^{\circ}\text{C}$

Zero stability - Plus 3 digits at input zero

Crest factor - 4.5 (error $\pm 0.1\%$)

POWER CONSUMPTION

Approximately 3.0VA typical

SPECIAL SCALING

Display can be set from 200 to 1999 for the rated input. Values on the primary of external PT's and CT's can be displayed by combined decimal point location and legend such as AC KILOAMPERES OR AC KILOVOLTS. Specify primary scale values when ordering such as: "Similar to 235300-50-10 except 150 Volts AC input equals 9.00 Kilovolts on display with AC KILOVOLTS as legend. . ." or "Similar to 235300-50-20 except 150 Volts AC input equals 9000 Volts on display. . ." The first example requires scaling and legend change. The second example requires scaling and the addition of an optional fixed zero on the display.

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MULTIFUNCTION

MODEL FORMAT:	2354	A	01	-	B	-	C
	2354		90	-		-	
MODEL	2354			-		-	
2354				-		-	



A	MULTIFUNCTION TYPE
01	3 VOLT/3 HERTZ INPUT
02	3 VOLT/3 AMP INPUT
10	VOLT/AMP/WATT/VAR/PF/HZ (1P2W)
20	VOLT/AMP/WATT/VAR/PF/HZ (1P3W)
30	VOLT/AMP/WATT/VAR/PF/HZ (3P3W)
40	VOLT/AMP/WATT/VAR/PF/HZ (3P4W)
90	3 AMP OR 3 VOLT INPUTcont
B	INPUT RATING BY MODEL TYPE
02	0 - 1 AMP (235490 ONLY).....
04	0 - 5 AMP (235490 ONLY).....
50	150V AC (235401 OR 235490)
80	300V AC (235401 OR 235490)
4002	120V/0-1 AMP (235410 - 40 ONLY)
4004	120V/0-5 AMP (235410 - 40 ONLY)
5102	150V/0-1 AMP (235402 ONLY)
5104	150V/0-5 AMP (235402 ONLY)
7002	240V/0-1 AMP (235410 - 40 ONLY)
7004	240V/0-5 AMP (235410 - 40 ONLY)
8102	300V/0-1 AMP (235402 ONLY)
8104	300V/0-5 AMP (235402 ONLY)
C	ANALOG OUTPUT
11	1mV DC/DIGIT
14	0 - 1mA DC Full Scale.....

Note: 2354 multifunction meters typically require scale information along with desired electrical legend. Also, the auxiliary power supply input must be specified. Please see scaling and power supply information at the bottom of this page.

2354 SPECIFICATIONS:

SIGNAL INPUT

Input Voltage range (235410 - 40)- 120V or 240V RMS full scale (600 V AC available as a special)
 Input Voltage range (235401, 02, 90)- 150V or 300V RMS full scale (600 V AC available as a special)
 Input Current range (all except #01 and #90 Volt input)
 - 1A or 5A RMS full scale (10 A AC available as a special)
 Maximum sustained input - Voltage 120% continuous;
 Current 200% continuous
 Frequency range - 45 to 65 Hertz
 Rated burden for measuring terminal - Voltage < 0.2VA per element; Current < 0.1VA per element
 Input terminal- Floating

ACCURACY / STABILITY (warm up time 30 minutes)

Accuracy - Volts, Amps, Watts $\pm 0.25\%$ ± 1 digit,
 VARS $\pm 0.5\%$ ± 1 digit, Power Factor ± 0.03
 corresponding to 2° phase angle at power factor of 0.5,
 frequency ± 0.2 Hz ± 1 digit

SPECIAL SCALING

Display can be set from 200 to 1999 for rated input. Values on the primary of external PT's and CT's can be displayed by combining decimal point location and legend (kV, kA, kW, MW, etc.). No scaling required for Hz and Power Factor. Specify primary values when ordering such as:

"Similar to 235440-4004-14 except 120V / 5A input = 1.440kV/600A/15.00MW/7.50MVAR on the display. . ."
 This provides the factory with sufficient information to apply the appropriate legend and calibrate for the desired readout.

POWER SUPPLY

Specify auxiliary power when ordering (either 100V or 117V or 220V or 240V AC $\pm 10\%$). Approximately 4.5VA

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AC WATTS or VARS

MODEL FORMAT: 2355 or 2356

A	B	C	D	E



MODEL Watt 2355 or Var 2356

A	WIRING CONNECTIONS
10	SINGLE PHASE 2 WIRE
20	SINGLE PHASE 3 WIRE
30	THREE PHASE 3 WIRE
40	THREE PHASE 4 WIRE**
B	VOLTAGE INPUT
40	120 VOLT AC
70	240 VOLT AC
C	CURRENT INPUT
02	0-1 AMP AC
04	0-5 AMP AC
D	DISPLAY MULTIPLIER
1	NO FIXED ZEROS
2	1 FIXED ZERO
3	2 FIXED ZEROS
E	ANALOG OUTPUT
0	NO OUTPUT
1	1mV/DIGIT
2	5mV/DIGIT
3	1 TO 5V DC
4	0 TO 1mA DC
5	4 TO 20mA DC

**Please specify auxiliary power of either 100, 117, 220 or 240V AC for 3P4W only if analog output is selected.

2355 / 2356 SPECIFICATIONS:

SIGNAL INPUT

Input Voltage range - 120V or 240V RMS full scale
(600 V AC available as a special)

Input Current range - 1A or 5A RMS full scale (10 A AC available as a special)

Maximum sustained input - Voltage 120% continuous;
Current 200% continuous

Power Factor - 0 - 1.0 - 0 (Lead + / Lag -)

Frequency range - Watt meter 40 to 500 Hertz ; Var meter 45 to 65 Hertz

Rated burden for measuring terminal - Voltage < 0.2VA per element; Current < 0.1VA per element

Input terminal- Floating

ACCURACY / STABILITY (warm up time 30 minutes)

Resolution - $\pm 0.25\%$ of full scale ± 1 digit

Accuracy - $\pm 0.25\%$ of reading ± 1 digit at any power factor ; $\pm 0.25\%$ of full scale for 45-65 Hz frequency range

Step response - Less than 1 second

Linearity - $\pm 0.1\%$; Zero stability - plus 3 digits at input zero

Range TEMPCO - Less than 250 ppm of full scale / $^{\circ}\text{C}$

POWER CONSUMPTION

Approximately 3.5 VA typical

SCALING

Scaling range - 200 to 1999 for 0.7 to 1.0 Power Factor.

Scale range adjustment accessible from front panel $\pm 5\%$ minimum. Values on the primary of external PT's and CT's

can be displayed by combining decimal point location and legend (ie, kW, kVAR, MW, etc.). Please specify when

ordering such as: "Similar to 235540-4004-14 except

PT = 480:120V, CT = 600:5A and full scale Watts = 900

kW, legend: AC KILOWATTS, auxiliary power: 117VAC. . ."

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POWER FACTOR or PHASE ANGLE



MODEL FORMAT: Phase Angle

A	-	80	-	D
---	---	----	---	---

Power Factor

	-		-	10
--	---	--	---	----

MODEL
2357

A	FUNCTION / CONNECTIONS
10	PHASE ANGLE 1P2W
11	POWER FACTOR 1P2W
20	PHASE ANGLE 1P3W
21	POWER FACTOR 1P3W
30	PHASE ANGLE 3P3W
31	POWER FACTOR 3P3W
40	PHASE ANGLE 3P4W
41	POWER FACTOR 3P4W
B	VOLTAGE INPUT
40	120 VOLT AC
70	240 VOLT AC
80	60 TO 300V AC(Phase Angle only)
C	CURRENT INPUT
02	0-1 AMP
04	0-5 AMP
D	ANALOG OUTPUT*
10	NO OUTPUT
11	1mV/DIGIT
12	5mV/DIGIT
13	1 TO 5V DC
14	0 TO 1mA DC
15	4 TO 20mA DC

* not available on
Power Factor model

2357 SPECIFICATIONS:

SIGNAL INPUT

Power Factor input voltage range - 120V or 240V RMS full scale (600 V AC available as a special)
Phase Angle input voltage range - 60 to 300 Volts AC (600 V AC available as a special)
Input Current range - 1A or 5A RMS full scale (10 A AC available as a special)
Maximum sustained input - Voltage 120% continuous; Current 200% continuous
Power Factor scaling range - (Lag) -0 to 1.0 to +0 (Lead)
Frequency range - 45 to 65 Hertz

Rated burden for measuring terminal - Voltage < 0.2VA per element; Current < 0.1VA per element
Input terminal- Floating

ACCURACY / STABILITY (warm up time 30 minutes)
Resolution - $\pm .001$ Power Factor , 0.1° Phase Angle
Accuracy - ± 0.015 Power Factor ± 1 digit ;
 $\pm 1.0^\circ$ Phase Angle

Step response - 1 second

Range TEMPCO - Less than 250 ppm of rated power / $^\circ\text{C}$

POWER CONSUMPTION

Power factor - Approximately 4.5 VA maximum

Phase Angle - 3.0 VA typical

IMPULSE VOLTAGE

Withstands 4.5 kV for 40 microseconds: between input terminals and case; between input and output terminals

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FREQUENCY METER

MODEL FORMAT: 2358 ^A - ^B80 - ^C



MODEL 2358

A	FREQUENCY RANGE	
00	20 TO 199.9 Hz	
01	20 TO 1999 Hz	
B	INPUT VOLTAGE RANGE	
80	60 TO 300 VOLTS AC	
C	ANALOG OUTPUT	
10	NO OUTPUT	
11	1mV/DIGIT	
12	5mV/DIGIT	
13	1 TO 5V DC	
14	0 TO 1mA DC	
15	4 TO 20mA DC	

2358 SPECIFICATIONS:

SIGNAL INPUT

Input Voltage - 300 Volt AC (useable at 60 to 300 Volt range). 600 V AC available as a special

Input variation - 20 to 100% of rated input

Rated burden - 0.2 VA / element

ACCURACY / STABILITY (warm up time 30 minutes)

Resolution - 0.1 Hz at 1.0 to 199.9 Hz range; 1.0 Hz at 1 to 1999 Hz

Accuracy - $\pm 0.05\%$ of reading ± 1 digit at rated operating conditions

POWER CONSUMPTION

3.0 VA maximum

Need assistance or have questions?

Call 1-800-258-2552 ext. 575

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Model 2359

DIGITAL METER RELAY

The Yokogawa Model 2359 Digital Meter Relay is designed to provide an output signal based on a comparison of the input signal with setpoint values. The meter consists of a 2350 Power Series meter combined with a digital setting unit for establishing reference values (high/low, high/high, or low/low). Contact status is monitored by LED's on the front panel. The hysteresis (dead-band) can be adjusted from 0 to 15 counts of display at the rear of the Meter Relay.



HIGH/LOW

Example: set the LOW adjustment to 100 and the HIGH adjustment to 300. When the input is 0, the LOW relay is actuated and the L lamp is on. When the input reaches 100 the LOW relay and the L lamp turn off and the middle lamp is lit. When the input reaches 300 the middle lamp turns off and the H lamp is lit with the HIGH relay actuated.

HIGH/HIGH

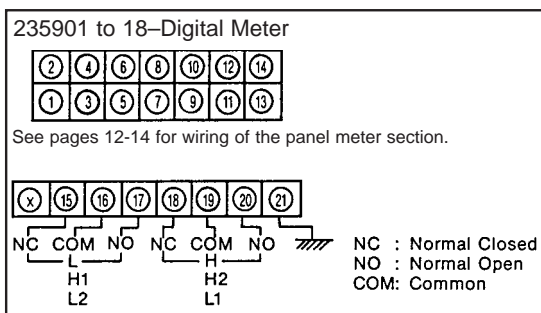
Example: set the H1 adjustment to 200 and the H2 adjustment to 300. When the input is 0, the left lamp is lit. When the input reaches 200, the left lamp turns off, the H1 relay is actuated and the H1 lamp is lit. When the input reaches 300, the H2 relay is actuated and the H2 lamp is lit.

LOW/LOW

Example: set the L1 adjustment to 100 and the L2 adjustment to 200. When the input is 0, both relays are actuated and the L1 and L2 lamps are lit. When input reaches 100, the L1 relay and the L1 lamp turns off. When the input reaches 200 the L2 relay and L2 lamp turns off and the right lamp is turned on.

SPECIFICATIONS

Rear Connection



Setting: Digital switch setting from 0-1999

Indicator: Contact status monitoring by LED's

Output: SPDT contact output 250V AC, 1A or 125V DC, 0.3A

Hysteresis setting: Externally adjustable from 0 to 15 digits

Meter Options: DC volts, AC volts, AC amps, watts, vars, phase angle and power factor (no fixed zeros available for Meter Relay)

Dimensions: 96 x 96 x 160mm (3.78 x 3.78 x 6.30 inches)

Weight: Approx. 1.1 Kg (1.2 pounds)

Accuracy: See specifications on previous pages for each individual meter type.

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DIGITAL METER RELAY

MODEL FORMAT: 2359 VOLTS or AMPS A B C D
W/VAR/PF/PA

MODEL
2359

A	FUNCTION & RATING
01	DC VOLT METER RELAY
02	AC VOLT OR AMP METER RELAY
03	WATT 1P2W METER RELAY
04	WATT 1P3W METER RELAY
05	WATT 3P3W METER RELAY
06	WATT 3P4W METER RELAY**
07	VAR 1P2W METER RELAY
08	VAR 1P3W METER RELAY
09	VAR 3P3W METER RELAY
10	VAR 3P4W METER RELAY**
11	PHASE ANGLE 1P2W MTR. RELAY
12	PHASE ANGLE 1P3W MTR. RELAY
13	PHASE ANGLE 3P3W MTR. RELAY
14	PHASE ANGLE 3P4W MTR. RELAY
15	POWER FACTOR 1P2W MTR. RELAY
16	POWER FACTOR 1P3W MTR. RELAY
17	POWER FACTOR 3P3W MTR. RELAY
18	POWER FACTOR 3P4W MTR. RELAY

B	MAXIMUM INPUT BY MODEL
02	1A AC (235902 ONLY)
04	5A AC (235902 ONLY)
20	2V DC (235901 ONLY)
30	20V DC (235901 ONLY)
50	150V AC (235902 ONLY)
60	200V DC (235901 ONLY)
80	300V AC (235902 ONLY)
90	600V DC (235901 ONLY)
4002	120V/1A AC (W/VAR/PF)
4004	120V/5A AC (W/VAR/PF)
7002	240V/1A AC (W/VAR/PF)
7004	240V/5A AC (W/VAR/PF)
8002	300V/1A AC (PH. ANGLE)
8004	300V/5A AC (PH. ANGLE)

C	RELAY TYPE
5	HIGH-LOW ALARM
6	HIGH-HIGH ALARM
7	LOW-LOW ALARM

D	ANALOG OUTPUT*
0	NO OUTPUT
1	1mV/DIGIT
2	5mV/DIGIT
3	1 TO 5V DC
4	0 TO 1mA DC
5	4 TO 20mA DC

**Please specify auxiliary power of either 100, 117, 220 or 240V AC for 3P4W only if analog output is selected.

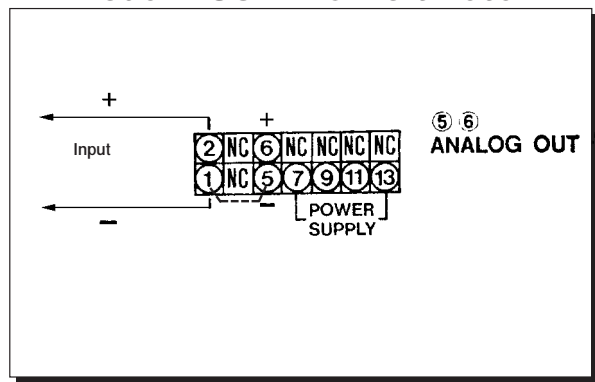
*not available on
Power Factor model

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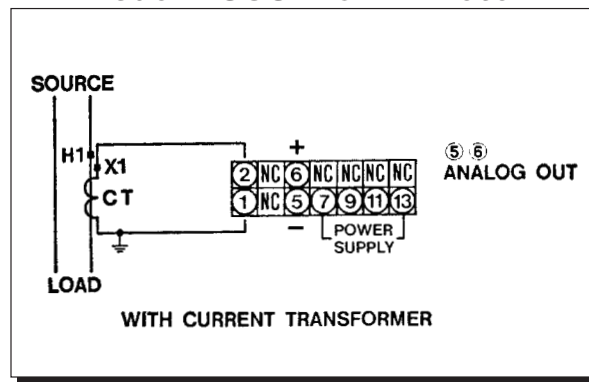
2350 POWER SERIES

Connection Diagrams

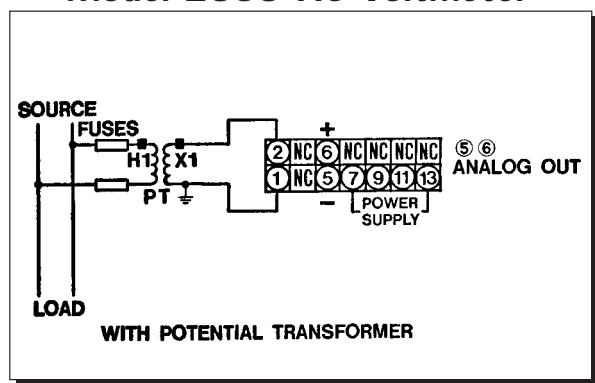
Model 2351-DC Voltmeter



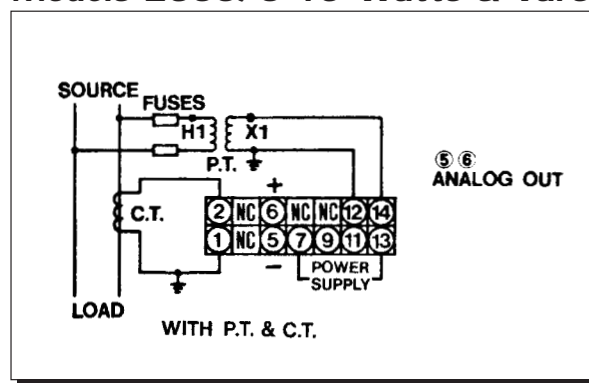
Model 2353-AC Ammeter



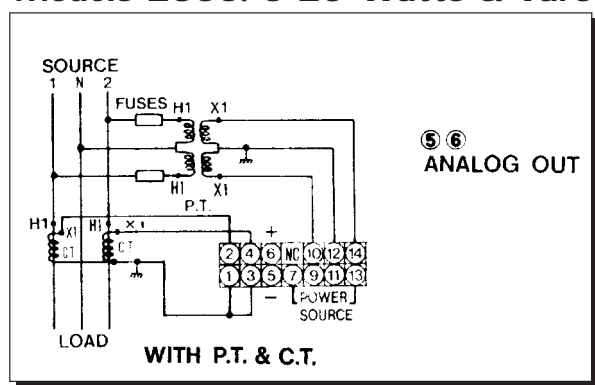
Model 2353-AC Voltmeter



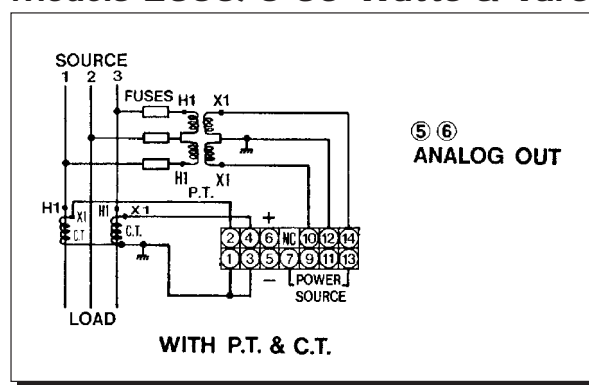
Models 2355/6 10-Watts & Vars



Models 2355/6 20-Watts & Vars



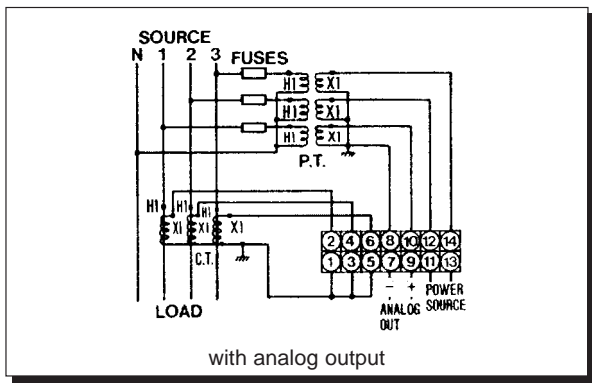
Models 2355/6 30-Watts & Vars



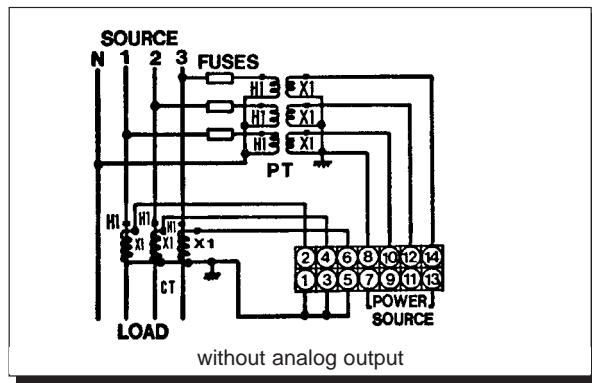
DIGITAL PANEL INSTRUMENTS

Connection Diagrams

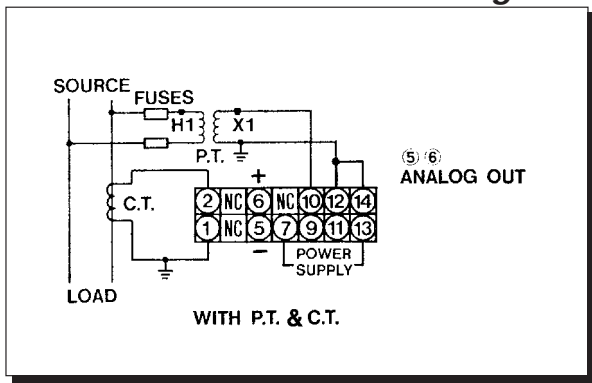
Models 2355/6 40-Watts & Vars



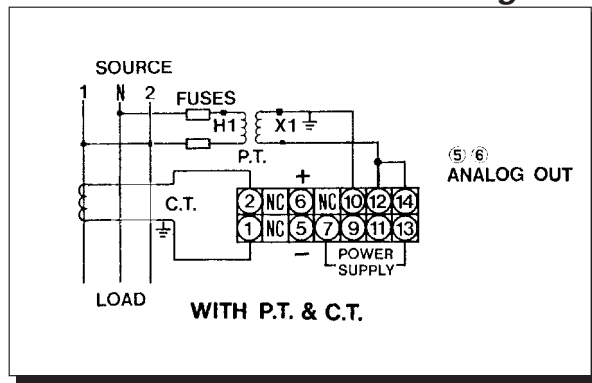
Models 2355/6 40 Watts & Vars



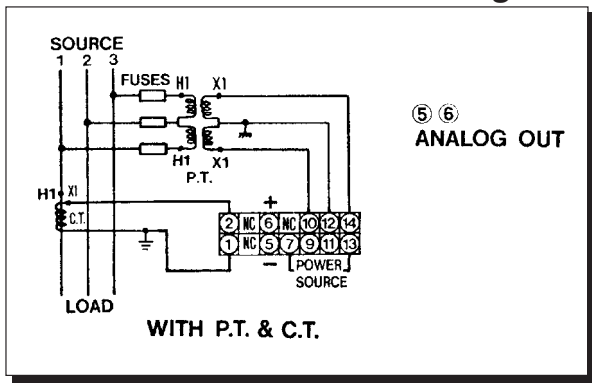
Model 235710-Phase Angle



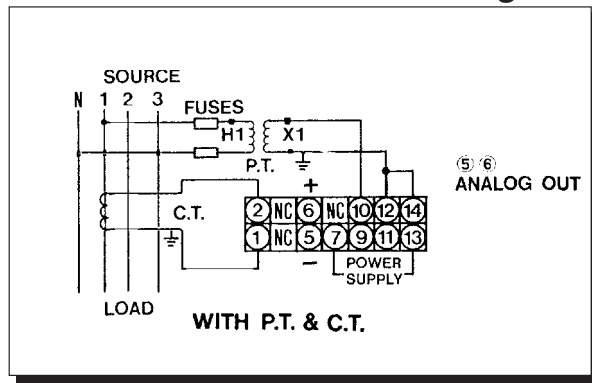
Model 235720-Phase Angle



Model 235730-Phase Angle



Model 235740-Phase Angle

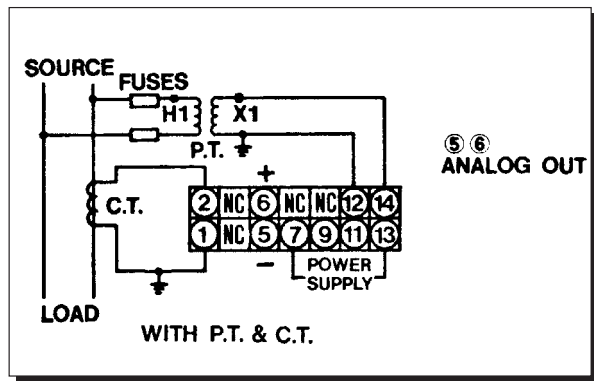


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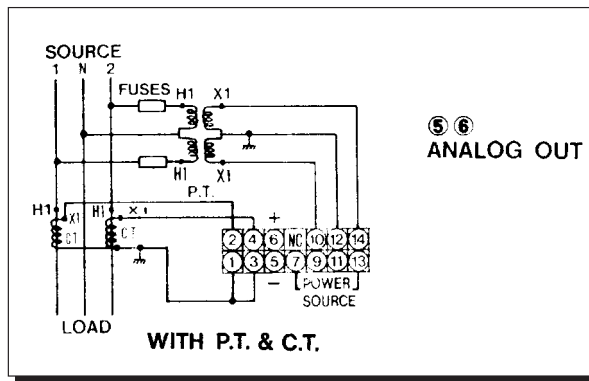
2350 POWER SERIES

Connection Diagrams

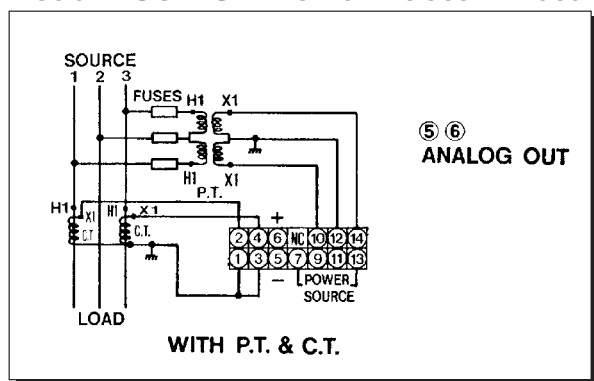
Model 2357 11-Power Factor Meter



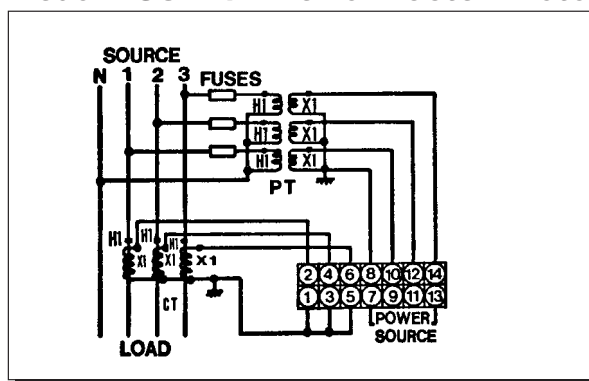
Model 2357 21-Power Factor Meter



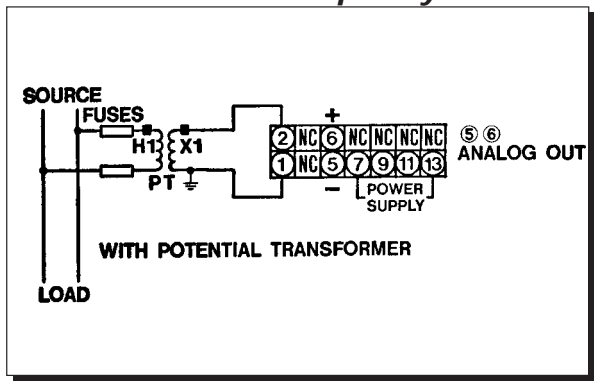
Model 2357 31-Power Factor Meter



Model 2357 41-Power Factor Meter



Model 2358-Frequency Meter



Power Connection Table

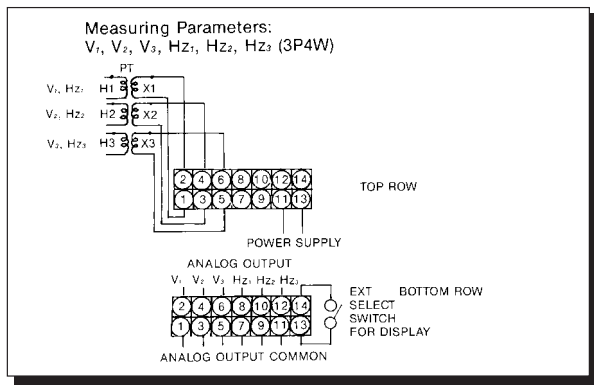
Power Input	Terminals			
	(7)	(9)	(11)	(13)
AC 100V		○	○	
117V		○		○
220V	○		○	
240V	○			○
DC Input			-	+

Special Order

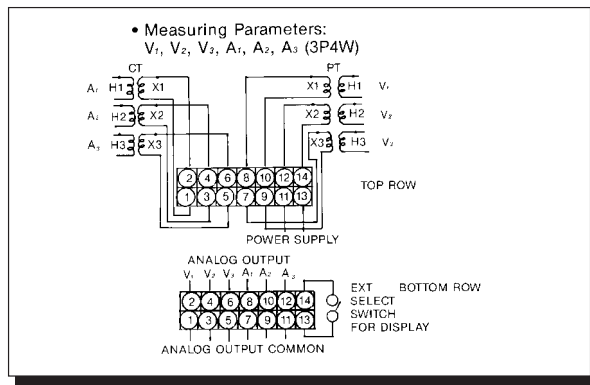
DIGITAL PANEL INSTRUMENTS

Connection Diagrams

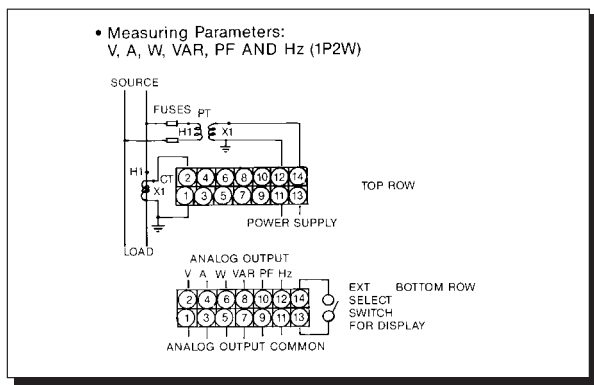
Model 2354 01



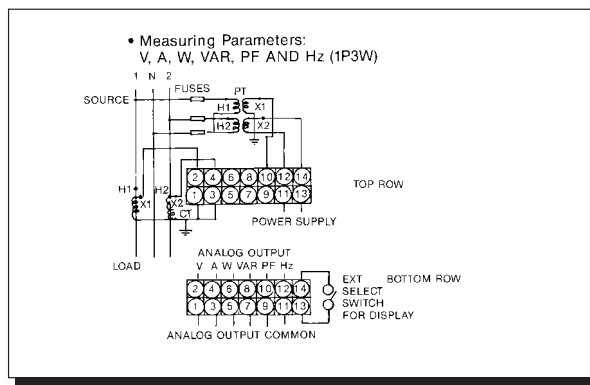
Model 2354 02



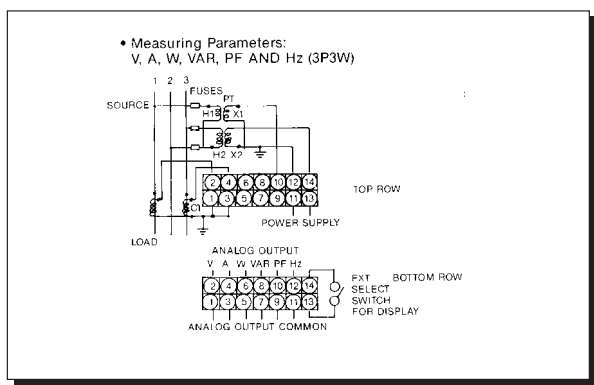
Model 2354 10



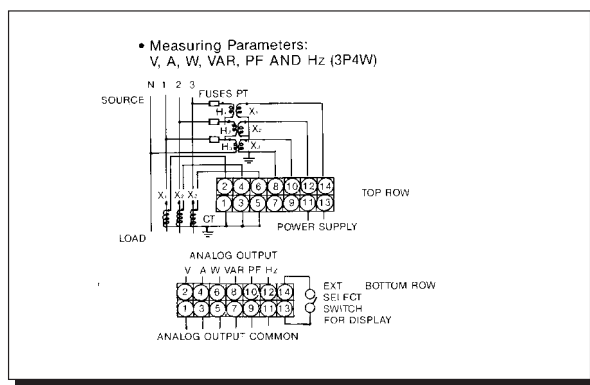
Models 2354 20



Model 2354 30



Model 2354 40



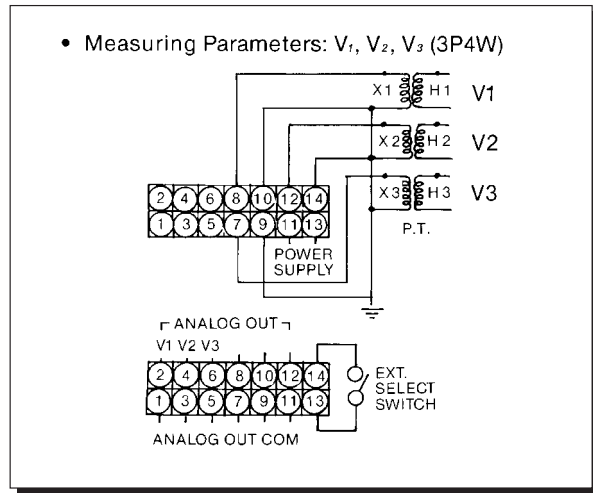
Need assistance or have questions?
Call 1-800-258-2552 x-575

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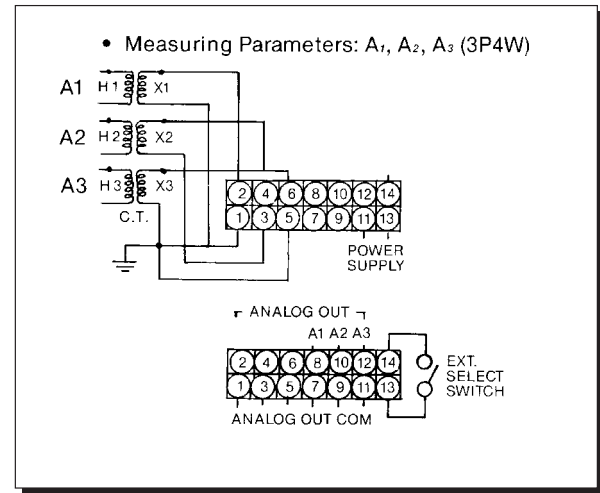
2350 POWER SERIES

Connection Diagrams

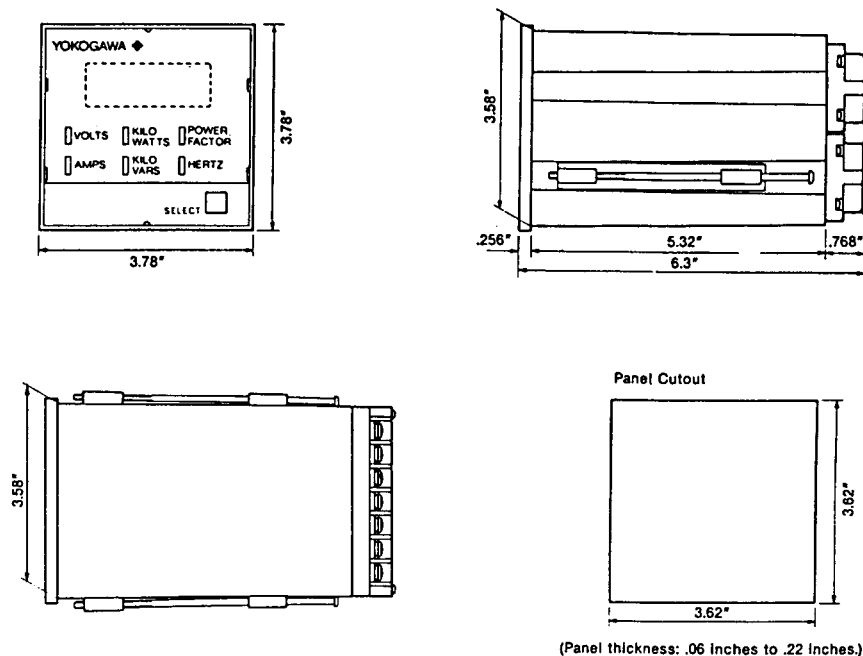
Model 2354 90



Model 2354 90



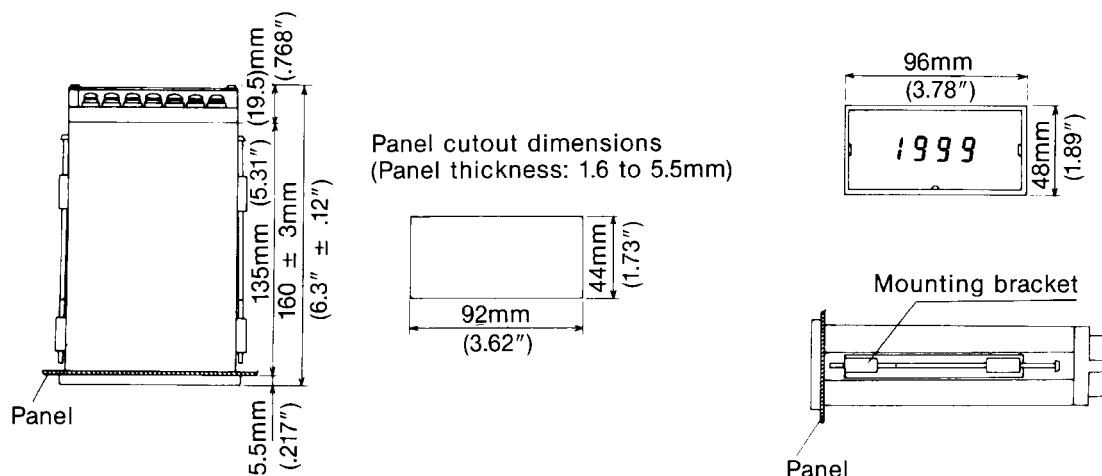
Dimensions of 2354 Multifunction Meter



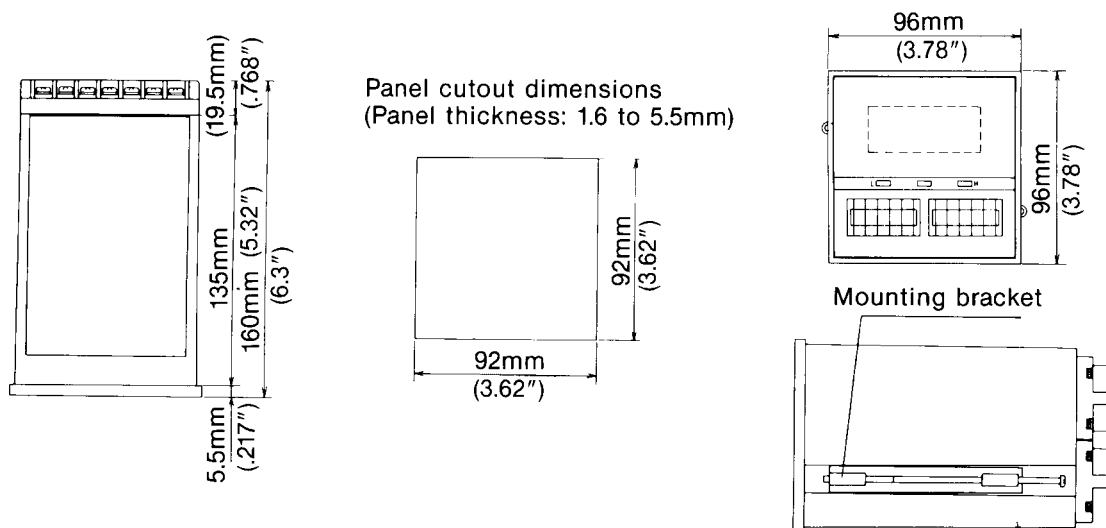
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DIGITAL PANEL INSTRUMENTS

Dimensions of 2351, 53, 55, 56, 57, & 58 Digital Panel Meters



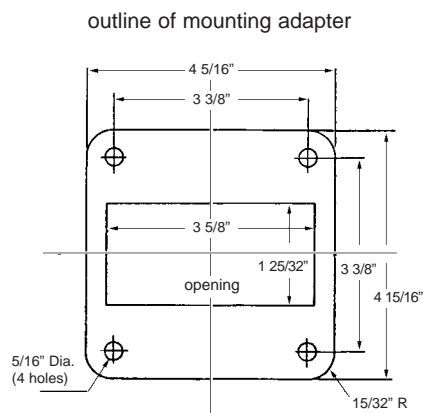
Dimensions of 2359 Digital Meter Relay



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2350 POWER SERIES

ACCESSORIES / SPARES



Switchboard Mounting Adapter for 1/8 DIN Case

A metal adapter plate allows for quick modification of a present switchboard panel without major redesign. The adapter mounts in the present mounting holes, covers the circular cutout for the replaced switchboard unit and neatly accepts mounting of the Power Series Digital Panel Meter.

Catalog No. B2350PSAP.....

Instruction Manual

This manual covers models 2351, 2353, 2355, 2356, 2357, and 2358.

Catalog No. IM2350-E.....

Meter Relay Instruction Manual

Catalog No. IM2359E

1/8 DIN Case

Catalog No. B9141AA

2354 Multifunction Instruction Manual

Catalog No. IM2354-E

1/4 DIN Case

Catalog No. B9140JL.....

Mounting Hardware

Catalog No. B9141AW

DISPLAY FILTERS & STANDARD LEGENDS

For 2350 1/8 DIN Size	3 1/2 Digit	With 1 Fixed Zero	With 2 Fixed Zero
Blank	B9141AB	B9141AC	B9141AD
DC Volts	B9141CN	B9141CP	B9141CQ
DC Millivolts	B9141EN	B9141EP	B9141EQ
AC Volts	B9141CA	B9141CB	B9141CC
AC Millivolts	B9141ER	B9141ES	B9141ET
AC Kilovolts	B9141CD	B9141CE	B9141CF
AC Amperes	B9141CG	B9141CH	B9141CJ
AC Kiloamperes	B9141CK	B9141CL	B9141CM
AC Watts	B9141DG	B9141DH	B9141DJ
AC Kilowatts	B9141DK	B9141DL	B9141DM
AC Megawatts	B9141DN	B9141DP	B9141DQ
Vars	B9141DR	B9141DS	B9141DT
Kilovars	B9141DU	B9141DV	B9141DW
Degrees (phase angle)	B9141EK	B9141EL	B9141EM
Hertz	B9141EA	B9141EB	B9141EC

DIGITAL PANEL INSTRUMENTS

Additional Yokogawa Products

Power Transducers



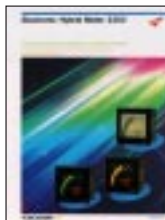
Yokogawa Juxta Power Transducers (models 2469, 2489) are UL recognized and enclosed in a rugged metal case with either 0.2% or 0.5% accuracy. For complete information, including other models and ratings, please request catalog BU-JAC-05-E.

Current & Potential Transformers



Yokogawa CT's and PT's provide high accuracy inputs to transformer-rated AC panel instruments and power transducers. Request bulletin 500CTPT-B for catalog numbers and specifications.

Hybrid Electronic Meter



The 2302 hybrid electronic meter was designed for a variety of applications where both analog and digital display information is required. Available with either yellow or green bargraph and backlighting, or monochromatic LCD bargraph with backlighting. For information please request catalog 2302-E.

Panel Meters



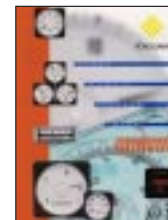
Yokogawa has the broadest line of panel meters available today. In many cases, our panel meters are completely interchangeable with other manufacturer's products. UL and IP54 splash resistant models available. For more information, request catalog 250260PM-B.

800^{Plus} Digital Meter & Counter



The 800^{Plus} Universal Digital Meters and Counters provide high accuracy programmable inputs and dual setpoint control. In addition, there are numerous digital interface options available. For more information please request catalog 800SG-01C.

Switchboard Instruments



Yokogawa is the world leader in Analog Switchboard Instruments. Catalog 103SBF-02 features the entire switchboard line including AB/DB 14, 16, 17 and 40, and type 180 edgewise. This catalog also includes the 2180 mini-switchboard meters, potential transformers, transducers and digital switchboard meters.

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Yokogawa Corporation of America (YCA), located in Newnan, GA since 1980 and founded in 1957, is a leading manufacturer and supplier of meters, transducers, field test instruments, laboratory measuring instruments, recording instruments and industrial controllers in the North American marketplace.

YCA is a wholly owned subsidiary of Yokogawa Electric Corporation, a company with more than 80 years of experience in the fields of Measuring Instrumentation and Industrial Control.



Yokogawa Corporation of America is ISO 9001 Certified.

YCA consists of four independent business divisions. Each is designed to be a nimble, flexible organization that is able to focus on and adapt to unique challenges in the marketplace. We believe this organizational structure helps us combine small company responsiveness with big company technology and stability. The result is a satisfied customer and means Yokogawa's vision for a better tomorrow is being realized today.

YOKOGAWA 
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Represented by: