

Product Catalogue Digest Version



Electronic LCD multimeter

- Various electronic multimeter
- Electric power monitoring software

Transducer

- Small-sized plug-in
- Plug-in
- Alarm setter
- Static detector
- Arrestor for signal/power
- Induced lightning detection arrester
- Small-sized box
- Small-sized multi AC
- Power saving monitoring
- Electric power monitoring
- Sensor
- Signal processing
- Special
- Rack storage type
- Rack mounting type

Power generator digital controller

- Power generator control equipment
- Automatic synchronous equipment
- Synchronous check relay
- Automatic power controller
- Automatic load distribution equipment

Digital measuring instrument

- Automatic three-phase power controller
- Digital multi meter
- Highest · lowest meter/
maximum demand meter
- Circuit breaker opening/shutting
monitoring display
- Failure display






Digital display

- Digital measuring instrument
- Mosaic display(15mm)
- Bar graph meter
- Digital counter
- Digital sounder





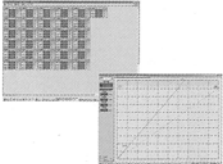
Electrical meter

- maximum demand amperometer
- Highest/lowest meter
- Meter relay
- Wide angle load flow
power factor meter
- Electrical meter






ELECTRONIC LCD MULTIMETER

 <p>ELECTRONIC MULTIMETER QLC-110/110L</p> <p>Cost reduction of distribution panel Compatible with various needs w/ back light</p>	<p>FEATURES Various kinds of electrical elements, in each phase of three-phase line, both of low voltage and high voltage circuit, such elements as voltage, current, power, reactive power, power factor, frequency can be measured and monitored in one single unit. Energy saving management is also possible by watt-hour measuring function.</p> <p>Circuit indication of R-Y-B and U-V-W are available.</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires(110V/220V. 1A/5A) Output(Option: Analog, Pulse or Communication) Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>
 <p>ELECTRONIC DEMAND MULTIMETER DLC-110/110L</p> <p>Most suitable for demand current measuring of low to high voltage circuit feeders Complied to criterion specified by Japanese Government(Ministry of Land-Infrastructure-Transport)</p>	<p>FEATURES Various kinds of electrical elements, in each phase of three phase line, such elements as maximum demand current, demand current, instantaneous current, voltage, power factor, powers(maximum, demand, instantaneous) and watt-hour can be measured and monitored in one single unit. Energy saving management is possible by watt-hour measuring function and centralized management is also possible with combination of Alarm/Analog output or Alarm/Communication output.</p> <p>Circuit indication of R-Y-B is available.</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires(110V/220V. 1A/5A) Output(Option: Analog, Pulse or Communication) Alarm output(Option) Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>
 <p>ELECTRONIC HARMONICS METER RELAY HLC-110/110L</p> <p>Most suitable for constant monitoring of harmonics with easy-to-see LCD screen Complied to criterion specified by Japanese Government(Ministry of Land-Infrastructure-Transport)</p>	<p>FEATURES Various kinds of electrical elements such as root mean squared value, fundamental wave root mean squared value, 5th conversion root mean squared value of harmonics/content by percentage, nth root mean squared value/content by percentage/distortion ratio can be measured in one single unit. Detection of harmonics and alarm output are possible. Two types: Voltmeter and amperemeter. Centralized management is possible with Analog output.</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires(110V/220V. 1A/5A) Output(Option: Analog) Alarm output Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>
 <p>ELECTRONIC MAX./MIN. MULTIMETER MLC-110/110L</p> <p>Most suitable for recording of earth fault voltage and maximum current with easy-to-see LCD screen</p>	<p>FEATURES Zero-phase voltmeter/three-phase voltmeter: Maximum zero-phase voltage, zero-phase voltage, three-phase voltage(RS,ST,TR) can be measured and monitored in one single unit. Maximum current/three-phase voltage: Maximum current, current, three-phase voltage(RS,ST,TR) can be measured. Most suitable for recording of instantaneous earth fault voltage or maximum current with free setting of measuring response time</p> <p>MAIN SPECIFICATIONS Three-phase 3-wires(110V/220V. Vo 110V/190V. MA 1A/5A) Output (Option: Analog) Alarm output(Option) Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>
 <p>ELECTRONIC DC MULTIMETER TLC-110/110L</p> <p>Most suitable for measuring of DC power board and DC circuit such as wind power generation, solar power generation, fuel battery, etc</p>	<p>FEATURES Voltage or current of DC circuit (3 circuits at maximum) can be measured. Insulated among input circuits with AC2000V. As for current of DC circuit, heavy current can be measured by using shunt. Centralized control is possible with Analog output.</p> <p>MAIN SPECIFICATIONS Voltage: DC $\pm 50 \pm 300V$, DC current(compatible with shunt) 50mV,60mV,100mV Shunt rated current: 1A to 10kA Display setting with requested voltage/current value Output(Option): DC4 20mA, DC1 5V, other Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) Withstand voltage: 2000V w/ Terminal cover</p>



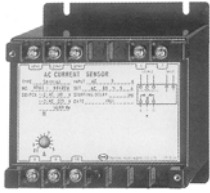

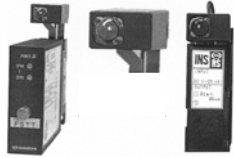
ELECTRONIC LCD MULTIMETER

<p>FEATURES Various kinds of electrical elements, in each phase of three phase line, such elements as current, voltage and leakage current can be measured and monitored in one single unit. Most suitable for monitoring of overload/leakage current of low voltage circuit. Overload alarm output, leak alarm output can be extracted outside.</p>	 <p>ELECTRONIC OVERLOAD/ LEAK DETECTION METER RELAY LLC-110/110L</p> <p>Most suitable for leakage current measuring/leak detection with easy-to-see LCD screen</p>
<p>MAIN SPECIFICATIONS Single-phase 3-wires, three-phase 3-wires(110V/220V. 1A/5A ZCT) Output(Option: Analog) Alarm output Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>	 <p>ELECTRONIC DC RECEIVING METER XLC-110/110L</p> <p>Simultaneous display of 3 physical quantities with easy-to-see LCD screen Easy scaling change</p>
<p>FEATURES Display of electrical signal which is converted from various physical quantities Centralized management is possible with simultaneous display of 3 physical quantities and 3 proportional Analog outputs</p> <p>MAIN SPECIFICATIONS Compatible with 3 inputs and 3 outputs Input: DC4 20mA, DC 1 5V, other Output (Option): DC4 20 mA, DC1 5V/other Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>	 <p>ELECTRONIC CURRENT MULTIMETER ALC-110/110L</p> <p>Most suitable for distribution panel standardization with easy-to-see LCD screen</p>
<p>FEATURES 3-phase current can be measured and monitored in one single unit. Most suitable for current measuring of power receiving, bus bar and feeder. Phase to phase can be displayed by Phase Changeover Switch.</p> <p>MAIN SPECIFICATIONS Single-phase 3-wires, three-phase 3-wire(1A/5A) Output (Option: Analog) Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>	 <p>ELECTRONIC VOLTAGE MULTIMETER VLC-110/110L</p> <p>Most suitable for distribution panel standardization with easy-to-see LCD screen</p>
<p>FEATURES 3-phase voltage can be measured and monitored in one single unit. Most suitable for voltage measuring of power receiving, bus bar and feeder. Line to line can be displayed by Phase Changeover Switch.</p> <p>MAIN SPECIFICATIONS Single-phase 3-wires, three-phase 3-wires(110V/220V) Output (Option: Analog) Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) or DC(20 56V) Withstand voltage: 2000V w/ Terminal cover</p>	 <p>ELECTRIC POWER MONITORING SOFTWARE PMS-01</p> <p>Low cost, energy-saving monitoring</p>
<p>FEATURES Remote monitoring/report(daily report, monthly report, etc) on computer of voltage, current, electric power, reactive power, power factor, frequency, watthour, varhour measured with multimeter by combination with electronic LCD multimeter. Collected data can be displayed by Trend Graph or inspected with spread sheet software.</p> <p>MAIN SPECIFICATIONS Personal computer: PC-AT compatible machine, PC-98NX OS: Microsoft Windows95/98SE CPU: Pentium 133MHz or more(166MHz or more recommended) Memory: 64MB or more HDD: Vacancy capacity of 400MB or more Display resolution: 800 x 600, 65536 color or more</p>	





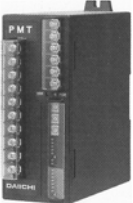
TRANSDUCER

 <p>SMALL-SIZED PLUG-IN TRANSDUCER (ONE OUTPUT)</p> <p>FINE SERIES</p> <p>Small-sized, High quality Compatible with JIS Safety Standard Withstand voltage: 2000V</p>	<p>FEATURES Small-sized/high voltage design. Withstand voltage: Among input, output, auxiliary power source and case. AC2000V(1500V with some transducer) 1 minute. Rated voltage/rated current output type. Power condition (ON or OFF) is confirmed with LED. Zero span adjustment is possible. Selection from isolator, distributor, thermocouple, resistance temperature, potentiometer, revolution, AC current, voltage transducer, etc. Compatible with CE marking(auxiliary power source DC24V specification)</p> <p>MAIN SPECIFICATIONS Input: 4 20mA, 1 mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5 V, 10V and other Various output: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V and 10V Auxiliary power source: AC/DC common(80 264V) or DC 24V. High precision. Installation to multi-relay base is possible.</p>
 <p>SMALL-SIZED PLUG-IN TRANSDUCER (TWO OUTPUT)</p> <p>FINE SERIES</p> <p>Small-sized, 2 outputs</p>	<p>FEATURES Small-sized/high voltage design. Control and monitoring in one single unit are possible with insulated 2 outputs. Withstand voltage: Among input, output, auxiliary power and case AC2000V(1500V with some transducer) 1 minute. Rated voltage/rated current output type. Power condition (ON or OFF) is confirmed with LED. Zero span adjustment is possible. Compatible with CE marking(auxiliary power source DC24V specification)</p> <p>MAIN SPECIFICATIONS Input:4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V and other Various output: 4 20 mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V Auxiliary power source: AC/DC common(80 264V) or DC (24V) High precision Installation to multi-relay base is possible</p>
 <p>PLUG-IN TRANSDUCER (ONE OUTPUT)</p> <p>TP SERIES</p> <p>High quality converter with many varieties(Broad range of usage from general industry to atomic energy)</p>	<p>FEATURES Safety design with characteristics of fume-resistance/humidity resistance. Suitable for harsh environment such as drainage system. Withstand voltage: Among input, output, auxiliary power and case AC2000V 1 minute. Rated voltage/rated current output type. Zero span adjustment is possible. Many types of equipment such as signal, sensor, AC transducer are available.</p> <p>MAIN SPECIFICATIONS Input: 4 20 mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5 V, 10V and other. Various output: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V and 10V Auxiliary power source: AC100, AC110V, AC200, AC220V, DC24V and DC48V (TP2 only: DC100/110V is possible)</p>
 <p>PLUG-IN TRANSDUCER (TWO OUTPUT)</p> <p>W SERIES</p> <p>varieties Controlling and monitoring are possible in one single unit</p>	<p>FEATURES Controlling and monitoring are possible in one single unit because of two output whose circuits are insulated. Zero span adjustment is possible at every output. Withstand voltage: Among input, output, auxiliary power source and case AC2000V 1 minute. Rated voltage/rated current output type. Selected from isolator, distributor, thermocouple, resistance temperature, potentiometer, revolution, AC current, voltage, frequency transducer, etc.</p> <p>MAIN SPECIFICATIONS Input: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V and other. Various output: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V and 10V. Auxiliary power source: AC100, AC110V, AC200, AC220V, DC24V, DC48V.</p>
 <p>PLUG-IN TRANSDUCER SOFT SPEC TYPE</p> <p>C SERIES</p> <p>High quality converter with many varieties(Broad range of usage from general industry to atomic energy)</p>	<p>FEATURES Operation parameter setting with CCM-1. Virtual output for loop test is possible. Withstand voltage: Among input, output, auxiliary power and case AC1500V 1 minute. Rated voltage/rated current output type. Zero span adjustment is possible. Types of equipment of addition/subtraction operation, multiplication/division operation, temperature/pressure correction, function generation, analog backup, voltage pulse, etc. are available.</p> <p>MAIN SPECIFICATIONS Input: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V and other. Various output: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V and 10V. Auxiliary power source: AC100, AC110V, AC200, AC220V, DC24V and DC48V. Special programming unit CCM-1 is necessary for setting change.</p>

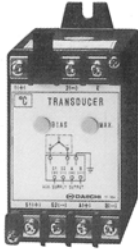

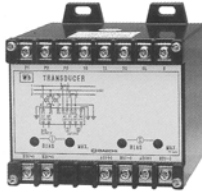
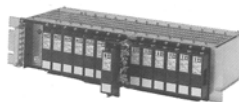
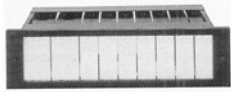
TRANSDUCER

<p>FEATURES Instrumentation setter which outputs excess or deficiency with two independent contact signals after comparing with setting value (DC voltage or DC current signal as an input). Compatible with software: Free setting of input with real scale according to processed amount and free setting/change of each setting values (operation value, contact delay, etc). Input and each setting value are displayed with real scale and each setting value is displayed with 4 digit LCD(w/ back light). SDDV-105 for deviation detection among input signals</p>	 <p>PLUG-IN LCD ALARM SETTER SDLC-105</p> <p>Selection according to usage Easy setting with LCD screen</p>
<p>MAIN SPECIFICATIONS Various input: 4 20 mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V and other. Auxiliary power source: AC100V, AC110V, DC24V, DC48V, DC100V, DC110V Alarm output 2 contact Start delay(SD) Contact delay(CD) SDDV-105: Detection of deviation among input signals and deviation of individual input signal.</p>	
<p>FEATURES SVD series: Setter with digital % scale which outputs contact signal with AC voltage as input. SDD series: Setter with digital % scale which outputs contact signal with DC current or DC voltage as an input. SD series: Setter with analog real scale which outputs contact signal with DC current or DC voltage as an input. This product can be used in combination with various sensor or transducer</p>	 <p>PLUG-IN ALARM SETTER SD SERIES</p> <p>Selection between digital and real scale setting type for detection of AC voltage/DC voltage</p>
<p>MAIN SPECIFICATIONS SVD series: Setting method: HL/HH/LL/H/L Various input voltage Auxiliary power source: AC/DC common (80 264V) or DC(24V/48V) Contact delay circuit(Optional), SDD, SD series Setting method: HL/HH/LL/H/L DC voltage/current for various input Auxiliary power source: AC100V, AC110V, DC24V and DC48V(DC100V, DC110V: only SDD) Contact delay circuit(Optional)</p>	
<p>FEATURES S-63 series: Multi-functioning electronic detector for the purpose of control to deal with various needs including automation of power supply system, labor saving system. This product can be used for power current circuit measuring instrument, reverse power of generator in shipping field, frequency control and overload detection of motor, etc. SFD-HL-74(±0.01Hz): for high precision frequency detection</p>	 <p>STATIC DETECTOR S-63 SERIES</p> <p>Most suitable for detection of AC/DC, revolution of tachogenerator, load flow, earthing resistance, voltage shortage, etc</p>
<p>MAIN SPECIFICATIONS Input: Various current, voltage, frequency ,etc Operation time: 0.5 50 seconds Control power: AC110/220, DC24V, 48V and 110V(Multiplier is externally equipped on some models). Setting method: L H × 3(according to product use)</p>	
<p>FEATURES DA series: Indoor-installed arrester to protect equipment by absorbing inductive lightning surge voltage which appears on signal line caused by electrical discharge of lightning. Small-sized plug-in structure: Line can not be open if main body part is extracted from terminal block part</p>	 <p>ARRESTOR FOR SIGNAL/POWER DA SERIES</p> <p>Most suitable for system equipment protection from inductive lightning surge evoked to transmission line of measuring equipment</p>
<p>MAIN SPECIFICATIONS For instrumentation: 4 20mA, for thermo resistance, thermocouple, potentiometer, pulse. For power: AC/DC 110V/3A,20A AC/DC220V/3A,20A DC24/3A</p>	
<p>FEATURES Detection of induced lightning. Arrester operation indication(Frontal display turns black to red and remains red after detection). Easy recognition of arrester exchange period by visible arrester operation. No power supply needed. Small space needed/reduction of wiring production cost by direct installation to terminal. Excellent response to sudden surge by ballista usage for surge absorption</p>	 <p>INDUCED LIGHTNING DETECTION ARRESTER UV-2 SERIES</p> <p>Absorbing induced lightning surge voltage on signal line by electrical discharge of lightning Indoor-installed arrester protecting connected equipments</p>
<p>MAIN SPECIFICATIONS Firing potential: Between line: DC130V or more, Between earth ground: DC65V or more Limiting voltage: Between line: 500V or less(1000A), Between earth ground: 250V or less(1000A) Response time: 0.1 μ s or less Discharge characteristics: 1000A(8 × 20 μ s) IMAX=2500A 2 times Leak current: Between line: 60 μ A or less(DC 130V), Between earth ground: 60 μ A or less(DC 65V) Maximum line voltage: DC130V or less Induced lightning detection level: Detection voltage: 1000 2000V(1.2 × 50 μ s) 1 time, Detection current: 200A 1 time Operation temperature/humidity range: - 10 + 55 , 5 90 % RH Storage temperature range: - 40 + 70 Appearance color: Munsell N1.5(Black) Weight: 20g</p>	






TRANSDUCER

 <p>SMALL-SIZED AC TRANSDUCER</p> <p>90 SERIES</p> <p>Small-sized box converter 2 types of installation: DIN rail mounting and wall-mounting</p>	<p>FEATURES Small-sized, power-oriented. Abundant auxiliary power source. Abundant output and compatible with special specification. A series of root mean squared value type to deal with distorted wave. Many types of equipment: Current, voltage, electric power, reactive power, power factor, V-V phase angle, V-I phase angle and frequency.</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires (110V/220V. 1A/5A) Various output: Constant current output: 4 20 mA, 1mA, 5mA and 10mA, Constant voltage output: 100mV, 1V, 5V, 1 5V, 10V and compatible with special specification. Auxiliary power source: AC100/110V, 200/220V, DC24V, DC100/110V Withstand voltage: 2000V w/ Terminal cover DIN rail mounting is possible</p>
 <p>ISOLATOR</p> <p>TT2-91A</p> <p>Small-sized box converter 2 types of installation: DIN rail mounting and wall-mounting</p>	<p>FEATURES Convert to unified signal among systems by amplifying every kind of DC signals. Withstand voltage: Among input, output, auxiliary power source and electrical ground AC2000V. · Delivery of insulated signals of electrical measurement system · Noise rejection · Prevention of diffraction on control circuit · Direct transmission of output signal to remote place</p> <p>MAIN SPECIFICATIONS Input: 4 20 mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V and other Various output: 4 20mA, 1mA, 5mA, 10 mA, 100mV, 1V, 5V, 1 5V and 10V Auxiliary voltage source: AC100/110V, 200/220V, DC20 56V, DC100/110V Withstand voltage: 2000V w/ Terminal cover DIN rail mounting Tolerance: ±0.25%</p>
 <p>SMALL-SIZED MULTI AC TRANSDUCER</p> <p>QT2-93A</p> <p>Small-sized box converter Most suitable for labor saving of ordinary wiring and space saving for distribution panel</p>	<p>FEATURES Suitable for space saving of distribution panel measuring and process reduction along with development of centralized monitoring in electrical system. Analog output/Pulse output of 3 current circuits, 3 voltage circuits, electrical power, reactive power, power factor, frequency and wathour by connecting to 1 circuit of electrical system</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires(110V/220V. 1A/5A) Various output Auxiliary power source: AC/DC common(AC90 242V/DC88 143V) or DC24V/DC48V. Withstand voltage: 2000V w/ Terminal cover DIN rail mounting Maximum Analog output: 10 outputs Pulse output: 1 output</p>
 <p>POWER-SAVING MONITORING TRANSDUCER</p> <p>PSMT-93A</p> <p>Measuring of 4 circuits of wathour (Communication output: RS-485 type) Most suitable for understanding of wathour by every production line</p>	<p>FEATURES Various kinds of electrical elements such as voltage, current/electric power and wathour of 4 circuits can be measured and monitored in one single unit simultaneously. Remote data transmission for energy-saving control is possible with Communication output. Low-priced electric power monitoring system can be structured by connecting to PC. Output electric power monitoring information of 4 circuits simultaneously by RS-485 communication output. All setting including communication setting: from front side. Operational condition is confirmed by POWER, RUN, ERROR LED</p> <p>MAIN SPECIFICATIONS Single-phase 3-wires, three-phase 3-wires(110V/220V. 1A/5A) Current measuring range: 1A 30KA 44 range, Voltage measuring range: 150V 750KV 16 range Output: RS-485 Communication output Auxiliary power source: AC/DC common(AC85 253V/DC80 143V) RMS operation method</p>
 <p>ELECTRIC POWER MONITORING TRANSDUCER</p> <p>PMT</p> <p>Multi-measurement converter with RS-485 type Communication output. Most suitable for energy-saving management with wathour measuring</p>	<p>FEATURES Various kinds of electrical elements such as voltage, maximum demand current, demand current, instantaneous current, electrical power, reactive power, power factor, frequency, wathour, var-hour can be measured and monitored in one single unit. Energy saving management is possible by wathour measuring function. Load flow measuring(output 2 quadrant) of reactive power, power factor, wathour and var-hour is possible simultaneously. Maximum connection: 31 units</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires(110V/220V. 1A/5A) Current measuring range: 1A 30KA 43 range Voltage measuring range: 150V 750KV 16 range Output: RS-485 Communication output/Pulse output Auxiliary power source: AC/DC common(AC85 253V/DC80 143V).</p>






TRANSDUCER

<p>FEATURES Convert signal from the sensor(thermo resistance, thermocouple, tachogenerator, potentiometer) to unified signal among systems. Compatible with similar specification of electrical power transducer: Linearizer and burnout circuit, etc are incorporated. Withstand voltage: 2000V</p>	 <p>SENSOR TRANSDUCER</p> <p>80 SERIES</p> <p>Selection of transducer with sensor as an input</p>
<p>MAIN SPECIFICATIONS Input: Various sensor Various output: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V and 10V Auxiliary power source: AC100/110V, 200/220V, DC24V, DC48V, DC100/110V Withstand voltage: 2000V Terminal cover (Option) Tolerance: $\pm 0.5\%$</p>	 <p>SIGNAL PROCESSING TRANSDUCER</p> <p>80 SERIES</p> <p>Compatible with broad range of signal processing including input switchover, scaling, etc.</p>
<p>FEATURES By using input switching, scaling, analog pulse, addition transducer: · Convert every kind of operated DC signals to weighted signals with different rated value among generators. · Extract total output/scaling output adjusted for input and display/pulse signal</p> <p>MAIN SPECIFICATIONS Input: Various DC voltage/current Various output: 4 20mA, 1mA, 5mA, 10mA, 100mV, 1V, 5V, 1 5V, 10V and other. Auxiliary power source: AC100, 110V, 200/220V, DC48/48V(DC100/110V VF-82A is excluded) Withstand voltage: 2000V(Input/output is non-insulated except for VF-83A, ADTT2-83A) Tolerance: $\pm 0.5\%$</p>	 <p>SPECIAL TRANSDUCER</p> <p>80 SERIES</p> <p>Compatible with integrating power, DC power, load flow, cycle control</p>
<p>FEATURES Integrating power and reactive power can be measured. Current, reactive power, power factor at load flow(power receiving/electric supply) can be measured. Cycle-controlled current, voltage, electric power of electric furnace, etc. can be measured. Exclusive transducer for special use(measurement of DC power, etc) is available. Also transducer for demand current/maximum voltage measurement is available</p> <p>MAIN SPECIFICATIONS Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires(110V/220V. 1A/5A) DC100V, 500A/60mV Output: Constant current output, constant voltage output Auxiliary power source: AC100/110V, 200/220V, DC24V and DC110V Withstand voltage: 2000V (DC power: Input/output: non-insulated)</p>	 <p>RACK STORAGE TYPE TRANSDUCER</p> <p>RS SERIES</p> <p>High quality/high performance System structure with free combination(from electrical power to instrumentation) in line with purpose</p>
<p>FEATURES High quality/high performance. Thin rack storage type transducer developed for instrumentation system. Electric power measurement series for system circuit is available other than various industrial quantity series. Selection of necessary measurement function from abundant models. Two output/connector output selection according to system structure. Storage case selection according to the number of measuring units</p> <p>MAIN SPECIFICATIONS RS(B)-19 (storage number: 14) , RS(B)-13(storage number: 8), RS(B)-9(storage number:4) Power unit: ZRS AC110V, DC24V and DC110V Auxiliary power source: Batch supply to each unit. Individual input: Isolator, thermocouple temperature, resistance temperature, etc. AC batch input: AC voltage, AC current, electric power, reactive power, power factor, frequency Withstand voltage: 2000V(isolator and AC converter) Transmission unit Arrestor unit</p>	 <p>RACK MOUNTING TYPE TRANSDUCER</p> <p>RC SERIES</p> <p>High quality/high performance Rack mounting type transducer</p>
<p>FEATURES High-reliability/high accuracy. Using highly reliable electronic parts. Selection among current, voltage, electrical power, reactive power, power factor, frequency, signal(resistance temperature). Selection among one output/two output and three output.</p> <p>MAIN SPECIFICATIONS Tolerance: $\pm 0.3\%$(phase angle, power factor, frequency are excluded.) Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires(110V/220V. 1A/5A) Various output Auxiliary power source: AC110V/DC110V Withstand voltage:2000V(Between output signals: AC500V) Check terminal: Option (standard setting according to type of equipment)</p>	



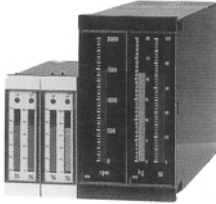
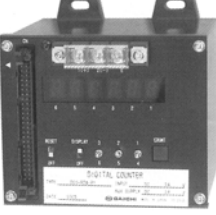

POWER GENERATOR DIGITAL CONTROLLER

 <p>POWER GENERATOR CONTROL EQUIPMENT</p> <p>AGC-300/310</p> <p>Compatible with broad range of needs including power generation for habitual/emergency use and cogeneration</p>	<p>FEATURES</p> <ul style="list-style-type: none"> · Maximum miniaturization of all-in-one controller. · Panel mounting, small-sized and thin type. · Power generator maximum operational units: 8 units. · Stable operation in line with system is realized because of easy setting/switchover of operational condition. <p>Control equipment with synchronous check relay, prevention of power receiving reverse power, prevention of power generator overload.</p> <p>AGC-310: Monitoring and setting change of power generator, bus bar measurement value by PLC(programmable controller).</p> <p>MAIN SPECIFICATIONS</p> <p>Parallel operation: power receiving and power generation.</p> <p>Power receiving electric power constant control, power generator electric power proportional distribution control, unit number control, power generator power factor constant control</p> <p>Power generator only operation, power generator electric power proportional distribution control, rated frequency control, unit number control, reactive power proportional distribution control, rated voltage control</p> <p>Synchronous closing control Power receiving electric power: 100 9999kW</p> <p>Power generator electric power: 100 9999kW Control power: AC/DC common(AC110/110V/DC100V) or DC24V</p>
 <p>AUTOMATIC SYNCHRONOUS EQUIPMENT</p> <p>ASY-96</p> <p>Small-sized, multi-functions Automatic control and check relay function incorporated in one single unit</p>	<p>FEATURES</p> <p>Automatic synchronous equipment with synchronism-check display(LED) for parallel connection of power generator.</p> <p>Smooth synchronous to control rush current and relieve system disorder/power generator shock by closing circuit breaker at synchronous point accurately after matching voltage and frequency on both sides</p> <p>MAIN SPECIFICATIONS</p> <p>Bus bar side, power generator side input: AC110V(50/60Hz) single-phase input</p> <p>Control input: Automatic synchronous start, manual synchronous start, closing designation on SLOW side</p> <p>Control output: voltage increase(60R),voltage decrease(60L),governor increase(15R),governor decrease(15L),synchronous check(± 15 degrees),</p> <p>Circuit breaker closing(25),alarm(ALARM)</p> <p>Voltage difference: 1 10% Frequency difference: 0.1 0.3 Hz</p> <p>Circuit breaker progressive time(10 310ms)</p>
 <p>SYNCHRONOUS CHECK RELAY</p> <p>CSY-96</p> <p>Supporting automatic/manual synchronous</p>	<p>FEATURES</p> <p>Synchronous check relay with synchronism check display used for synchronous between bus bar and power generator/synchronous among systems.</p> <p>Used for fail safe at automatic synchronous and manual synchronous.</p> <p>MAIN SPECIFICATIONS</p> <p>Bus bar side, power generator side input: AC110V(50/60Hz) or AC110V/ 3V(50/60Hz) single-phase input</p> <p>Control output: synchronous check($\angle \phi$), Dead bus closing(D, B, C), Alarm(ALARM)</p> <p>Control power: AC/DC common(AC100/110V, DC100/110V)</p> <p>Frequency difference: 0.05 0.3 Hz</p> <p>Phase difference: 3 35 degree</p>
 <p>AUTOMATIC POWER CONTROLLER</p> <p>ASP-96</p> <p>Stable and speedy control of power factor of power generator</p>	<p>FEATURES</p> <p>Constant control of power factor of synchronous power generator at parallel operation with system. Power factor can be improved by constant power factor of power generator even if load fluctuates</p> <p>MAIN SPECIFICATIONS</p> <p>AC input: Three-phase 3-wires, 110V/5A</p> <p>Control input: Power factor control start(START), remote start(REMOTE), Remote input(REMOTE INPUT)</p> <p>Control output: Voltage increase(60R), Voltage decrease(60L),alarm(ALARM)</p> <p>Control power: AC85 127V, DC80 143V</p>
 <p>AUTOMATIC LOAD DISTRIBUTION EQUIPMENT</p> <p>ALS-210R/200R</p> <p>Free parallel operation system of power receiving and multiple power generators</p>	<p>FEATURES</p> <p>Load distribution of multiple power generators can be automatically controlled.</p> <p>Ideal power generator unit number control/load distribution control is possible with power receiving electric power constant control and period setting according to load at parallel operation of power receiving and multiple power generators. Unit number control, proportional load distribution control and frequency control is possible at parallel operation of power</p> <p>MAIN SPECIFICATIONS</p> <p>Parallel operation of power receiving and power generator, proportional distribution control, unit number control Power receiving recycle operation control Power generator high output operation</p> <p>Control input: Start designation, separation designation Control output: Governor increase(15R), Governor decrease(15L), Separation designation: possible, separation designation</p> <p>Control power: AC110/110V</p>

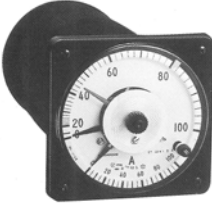
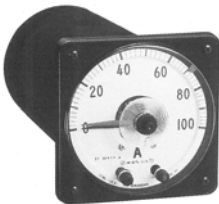
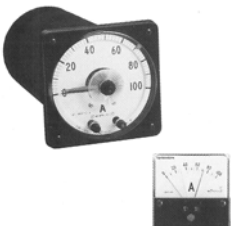


DIGITAL MEASURING INSTRUMENT

<p>FEATURES Automatic power controller for three-phase to control automatically closing amount of electrical power condenser. Saving electric utility expense by discount according to power factor. Labor saving by power factor monitoring/adjustment. Effective usage of facility capacity by reduction of electrical power loss. Extended longevity of equipment by stable circuit voltage.</p>	 <p>AUTOMATIC THREE-PHASE POWER CONTROLLER PFQ-3/PFQ-6</p> <p>For saving electric utility expense by discount according to power factor as well as energy saving</p>
<p>MAIN SPECIFICATIONS Three-phase 3-wires or 4-wires(110V/220V, 1A/5V). Auxiliary power source: AC/DC common(AC85 253V/DC80 143V). Control system: Cyclic control/optimization control/multi-step control Condenser control number(MAX. 3 circuits, MAX 6 circuits) Control output contact, Zero voltage 1a contact(one side common) AC250V/5A DC100V/0.5A, DC30V/5A</p>	 <p>DIGITAL MULTI METER QM1-96</p> <p>Maximum 3 measurements can be displayed Digital multi meter with Analog/Pulse output</p>
<p>FEATURES Various kinds of electrical elements such as current, voltage, electric power, reactive power, power factor, frequency, watthour and varhour can be measured by connecting one circuit of electrical system. Digital display, Analog/Pulse output are possible.</p> <p>MAIN SPECIFICATIONS Measurement display: Selection of 1,2,3 line display Single-phase 2-wires or 3-wires, three-phase 3-wires or 4-wires (110V/220V, 1A/5A) Output(Option: Analog/Pulse) Auxiliary power source: AC100/110V, DC24V, DC110V Withstand voltage: 2000V</p>	 <p>HIGHEST · LOWEST METER/ MAXIMUM DEMAND METER MA-96/MDA-96</p> <p>DIN96 × 96 digital meter with transducer incorporated</p>
<p>FEATURES Highest/lowest meter MA-96/MV-96 Maximum demand meter MDA-96/MDV-96: Transducer incorporated. Output: Analog, Alarm. Various setting is possible with front switch. Most suitable for electric power monitoring in factory and building.</p> <p>MAIN SPECIFICATIONS Highest/lowest meter Input: current, voltage Display: Instantaneous value/highest value/lowest value Maximum demand amperometer, Input: Current, voltage, Display: Instantaneous value, maximum demand value, demand value Output(Option: Analog, Alarm) Auxiliary power source: AC100/110V, DC100/110V, DC24V Withstand voltage: 2000V</p>	 <p>CIRCUIT BREAKER OPENING/ SHUTTING MONITORING DISPLAY MCB-96</p> <p>Most suitable for circuit breaker maintenance</p>
<p>FEATURES Digital display(DIN96 × 96) with Alarm output function. Power saving of circuit breaker maintenance and reliability improvement. Closing time, contact parting time and operational revolution of circuit breaker can be monitored.</p> <p>MAIN SPECIFICATIONS Input: Voltage contact: DC110V/10mA Auxiliary power source: AC100/110V, DC100/110V Output element: Closing time, Contact parting time(holding output for both), output full-scale time, output form, contact parting output multiplying factor, w/Alarm output</p>	 <p>FAILURE DISPLAY FSA-96</p> <p>Small-sized failure/condition monitoring system Remote monitoring with Communication output</p>
<p>FEATURES Alarm display and alarm output with failure input signal from protection relay. Used as condition display by setting change. Signal delivery to centralized monitoring equipment is possible with Communication output (Option).</p> <p>MAIN SPECIFICATIONS Input: Failure input/condition input: 8 points Alarm stop input: 1 point Display return input: 1 point Output: Alarm output: 3 points Communication output: 1 point(Option) Display: Failure display: Red LED Condition display: Amber LED, 8 points in total Auxiliary power source: AC100/110V, DC100/110V, DC24V</p>	

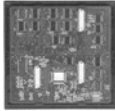
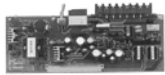
DIGITAL DISPLAY

 <p>DIGITAL MEASURING INSTRUMENT DP SERIES</p> <p>Various functions/types for various use (w/high luminance LED)</p>	<p>FEATURES Digital panel meter to display various data of main equipments from large LED to mini-graphic panel/mosaic panel for centralized monitoring control. Broad range of use in various plants measuring. High accuracy/high reliability design.</p> <p>MAIN SPECIFICATIONS Various size/various type Various input (compatible with broad range of options) Various auxiliary power source</p>
 <p>MOSAIC DISPLAY(15mm) LPD SERIES</p> <p>LED display for centralized monitoring control graphic panel / mosaic panel</p>	<p>FEATURES Digital panel meter used for graphic panel/mosaic panel for centralized monitoring control. Input: BCD input One-touch installation to mosaic panel with installation fixture. Display of electrical amount, physical quantity ,etc.</p> <p>MAIN SPECIFICATIONS Size: 30/50mm Input: BCD input(Data bus method) line-height: 8/10/15/20/25mm Auxiliary power source: DC24V</p>
 <p>BAR GRAPH METER XGF SERIES</p> <p>Bar graph meter for power receiving/distribution panel, instrumentation panel</p>	<p>FEATURES Bar graph meter for power receiving/distribution panel, instrumentation panel and various plants. Instant visual recognition of operational condition of plant with bar graph. Vertical/horizontal display, digital display, 3 digits digital display, special display(1 bar,2 bar)</p> <p>MAIN SPECIFICATIONS Bar display Dot number: 51/101 dots Display color: Display in red/green Input: DC signal receiving indication Auxiliary power source: AC100V, DC110V</p>
 <p>DIGITAL COUNTER DE SERIES</p> <p>Digital counter with BCD output (6-digits display)</p>	<p>FEATURES Digital counter with integrating display after receiving pulse signals of various sensors. Counter display on digital panel meter is possible with 6-digits BCD output.</p> <p>MAIN SPECIFICATIONS Number input: 10 cps(DC24V) Display: 6 digits Output: 6-digits BCD output Auxiliary power source: DC24V Withstand voltage: 2000V</p>
 <p>DIGITAL SOUNDER DBBC</p> <p>Various sounds/various use</p>	<p>FEATURES Small-sized electronic sensor most suitable for centralized monitoring panel. Simultaneous 3 sounds output in one single unit. Sound volume adjustment from front side. Alarm output: Consecutive 96 hours endurance. Sound notice of 3 kinds in one single unit and individual sound volume adjustment. Simultaneous 3 alarm sounds output. w/Test function. Small-sized, light-weight.</p> <p>MAIN SPECIFICATIONS Test function: Individual test with front side push switch Simultaneous alarm output: simultaneous output of multiple inputs Rated input/rated test power: AC100/110V, DC110/110V, DC48V, DC24V, DC100/110V</p>

ELECTRICAL METER

<p>FEATURES 4 functions in one single unit. Current(maximum demand, demand, instantaneous) can be measured. Adjustment from front side: Manual return of alarm output signal generation, zero-adjuster and record pointer/alarm output setting. Alarm output contact: Contactless passage style. Electromagnetic return(Option).</p>	 <p>MAXIMUM DEMAND AMPEROMETER BRL-110CH</p> <p>Complied to criteria specified by Japanese Government(Ministry of Land-Infrastructure-Transport) and Tokyo Metropolitan Government</p>
<p>MAIN SPECIFICATIONS Single-phase 2-wires 5A/1A Period: 2 minutes, 5 minutes, 10 minutes, 15 minutes Alarm contact (1a) Withstand voltage: 2000V</p>	
<p>FEATURES Suitable for recording of earth fault occurrence by indicating maximum/minimum value instantly with recording pointer. Two types: 110 angle and 80 angle. Many kinds of model: DC amperometer/DC voltmeter/AC amperometer/AC voltmeter/wattmeter/varmeter/power factor meter.</p>	 <p>HIGHEST/ LOWEST METER RL SERIES</p> <p>Most suitable for earth fault voltage/current measuring</p>
<p>MAIN SPECIFICATIONS Wide angle: 110 angle/80 angle Various input/various scales Manual return(Option: Electromagnetic return specification can be available) Response time: 0.1 30 seconds</p>	
<p>FEATURES Meter relay structure: Meter part with detection mechanism and relay part to control external circuit. Contact-less method with LED photo transistor incorporated in detection part. No affect of external vibration/shock because of contact-less mechanism by pointer passage/no contact adhesion</p>	 <p>METER RELAY EP/EL/EK/EF SERIES</p> <p>Most suitable for abnormality alarm of electrical control, abnormality detection, automatic control management in various industries</p>
<p>MAIN SPECIFICATIONS Various size/various type Various input/various scale(compatible with broad range of options) Relay operation control system: H,L,HL,HH,LL Relay control power: AC100V, AC220V, DC24V, DC48V, DC110V</p>	
<p>FEATURES Measuring and display of three-phase power factor in electrical system. At power receiving: Power factor can be measured and displayed with upper half of measuring scale. At power distribution: Power factor can be measured and displayed with lower half of measuring scale. Accurate measuring up to 1/10 of rated current by electrical characteristics improvement.</p>	 <p>WIDE ANGLE LOAD FLOW POWER FACTOR METER FPDL-110C-33</p> <p>Power factor measuring at load flow in electrical system</p>
<p>MAIN SPECIFICATIONS Front size:110 × 110 Swing angle: 360 degrees Input: AC110V, 220V, 5A Withstand voltage: 2000V Accessory: FSPT-83M-33</p>	
<p>FEATURES Used in various kinds of electrical equipments such as distribution panel, control panel, electric power equipment, communication equipment, chemical equipment. · For AC/DC · High performance, economical advantage, good design, many types of model. · Wide angle(LC), <i>kaku-gata</i> (PK), <i>yokonaga-gata</i> (LK), <i>gakubuchi-gata</i> (FK), <i>huchi-gata</i> (F), DIN standard(PD). · Abundant meter accessory:(Current transformer/transformer/DC shunt).</p>	 <p>ELECTRICAL METER PK/L/LK/FK/F SERIES</p> <p>High quality/high performance meter complied to JIS standard Wide angle/<i>kaku-gata</i>/<i>yokonaga-gata</i>/<i>gakubuchi-gata</i>/<i>huchi-gata</i></p>
<p>MAIN SPECIFICATIONS Front size: PK-120(120 × 120), PK-100(100 × 100), PK-80(80 × 80), PK-60(60 × 60), L-110(110 × 110), L-80(80 × 80), L-65(65 × 65) and other Various input/various scale(compatible with broad range of options). Withstand voltage: 2000V</p>	

CONSIGNMENT PRODUCT DEVELOPMENT



Consignment product development

Our company undertakes product development and manufacturing by taking advantage of our measuring technology in electrical field as well as technology in control field as power generator controller.

History of consignment development

Industrial modem
Power generator controller
Electrical power multi-controller
Automatic power factor improvement equipment
LCD display measuring equipment

Quality of products is guaranteed under comprehensive quality control from assembly to inspection

Undertaking product R&D and manufacturing

General Manufacturer of Measurement System



ISO 9001:2000



JIS mark certified factory



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