MT100 Paperless Chart Recorder and Data Logger

Desktop or panel mount

IP65 protects against dust and moisture

5.7in. real-time color display

10 analog input channels (voltage, thermocouple, RTD, and humidity)

- 4 logic/pulse inputs
- 4 relay alarm outputs

Records to USB memory stick

Auto data archive via LAN

The MT100 is a feature-packed process monitor for nearly any industrial application to replace traditional chart and circular recorders, digital and analog panel meters, and other less capable monitoring equipment. Its 10 isolated analog input channels are complemented by four logic channels that are programmable as either discrete or pulse inputs. The 10 analog channels may be programmed on a channel-by channel basis to measure voltage from ± 20 mV to 50V full scale across 12 ranges, thermocouple- or RTD-based temperature, or 4-20 or 0-20 mA current loops. Nearly all thermocouple types are supported; along with both PT100 and PT1000 RTDs. MT100 logic inputs detect state changes, while pulse inputs may be used for count and/or rate determinations. A separate trigger input allows the instrument to synchronize its measurements to external events. The MT100 measures humidity using either a built-in dry bulb/wet bulb calculation, or by using an optional humidity probe. All measurements are displayed in real time on its built-in color display, and may be simultaneously recorded to internal memory, a standard removable USB memory stick, or to a LAN-based file server. Each of four alarm outputs with flexible trigger definitions allow the MT100 to handle any alarm load up to 250 VAC /2 A, meaning that the MT100 can directly control most lights or audible alarms without external circuitry. If it's connected to a PC on its LAN connection it can even send you an email during an alarm event.



Features

Wide Voltage Measurement Range

Each M100 analog channel can measure from 20 mV to 50 VFS across 12 programmable measurement ranges.

Full Electrical Isolation Per Channel

Each analog M100 channel is electrically isolated from all others and from instrument ground to allow accurate and safe measurements in industrial applications where ground potential differences are common.

Multiple Measurement Functions

Use the M100 to measure voltages, currents, 4/0-20 mA process current loops, thermocouple- and RTD-based temperatures and humidity.

Two Humidity measurement modes

The M100 features a canned dry/wet bulb calculation for humidity measurements, or use the optional B-530 humidity sensor.

Three Data Recording Modes

The MT100 creates a permanent record of recorded data in one of three ways: To its internal 12 MB memory; to a USB memory stick; to a connected FTP file server over a LAN. File sizes as large as 2GB are supported.

Four Discrete Inputs

The MT100 provides discrete input channels that can be used for counting and rotational speed measurement applications. Or program the discrete inputs as simple logic level input channels.

Four Alarm Outputs

Program the MT100 to trigger its alarm outputs as a function of analog input signal level judgment, pulse judgment, or logic pattern. Built-in relays on each channel simplify external wiring. Alarms can be triggered from analog data based on simple threshold, window in, window out, and rate of change definitions.

Bright TFT LCD Color Display

The focal point of the MT100 is its built-in 5.7-inch color display that allows real time trending, data review, and complete instrument configuration.

Wide Sample Interval Selections

Sample intervals can be programmed to be one of eighteen values ranging from 100 ms to one hour.

Engineering Units Scaling

Each MT100 channel allows up to four break points to be programmed for accurate scaling into meaningful units like psi, grams, newtons, gallons per minute, etc.

Flexible Triggering Options

Allows data capture to be started or stopped based upon signal level, an external event, date/time, alarm, duration, or Boolean channel combinations. Analog signal triggers can be programmed based upon level and window tests: above threshold, below threshold, inside window, or outside window.

Real Time and Post-recorded Calculations

The MT100 may be programmed to calculate average value, peak value, minimum value, rms, and arithmetic operations $(+,-,\times,/)$ between channels.

Built-in LAN and Web Server

The MT100 provides an Ethernet connection that allows data file transfers, remote control, real time monitoring, and email alarms.

Panel-mount or Optional Desktop Enclosure

The MT100 can be mounted to a panel using included hardware, or purchase an optional desktop enclosure with a carrying handle for portable use.

MT100 Major Components and Functions





Behind the front panel



Rear panel view



MT100 Signal I/O Connections

Analog inputs





Current Input



Optional model R250 Shunt resistance Ex: for current in the 4 to 20 mA range, apply a resistance of 250 Ω (±0.1%) and perform measurement in the 1 to 5 V range.

Analog input circuit per channel

per wire, and equivalent among the three wires.



- + High -voltage terminal (terminal for high voltage signals)
 - Low-voltage terminal (terminal for low-voltage input signals)
- b Dedicated terminal when connection resistance temperature detector

*Resistance temperature detector input terminals A (+) and B (-) are isolated within each channel. Terminal b is shorted within all channels.

ltem	Description
Input configuration	Input configuration Isolated input, scanning
Analog voltage	20, 50, 100, 200, 500 mV/F.S.; 1, 2, 5, 10, 20, 50 V/F.S.; 1-5V
Thermocouples	Thermocouples K, J, E, T, R, S, B, N, W (WRe 5-26)
Resistance temperature detector	Pt100, JPt100, Pt1000 (IEC751)
A/D resolution	16-bit
Filter	Off, 2, 5, 10, 20, 40 Filter operation is on a moving average basis. The average value of the set sampling count is used.

MT100 Signal I/O Connections (continued)

Discrete inputs and outputs, and equivalent circuits

Connections for discrete inputs and outputs are made directly to the 20-terminal connection panel located at the back of the MT100.





Typical pulse/logic input (4 each)



ltem	Description
Number of input channels	4
Input voltage range	0 to +24V max. (single-ended ground input)
Threshold level	Approx. +2.5V
Hysteresis	Approx. 0.5 V (+2.5 to +3 V)



ltem	Description
Number of input channels	1
Input voltage range	0 to +24V max. (single-ended ground input)
Threshold level	Approx. +2.5V
Hysteresis	Approx. 0.5 V (+2.5 to +3 V)



Item	Description
Number of output channels	4
Output format	Relay contact output (NO/NC) <relay ratings=""> contact rating : 250 VAC/2A, 30 VDC/2A contact relay life : 100,000 operations</relay>
Withstand voltage	Between output and GND: 1000 VAC/1 minute

Connecting the MT100 to a PC

Connection using a USB cable



Connection using a LAN



Use a straight cable when connecting to a hub or switch



Use a crossover cable when connecting directly to a PC



The MT100's Built-in Display

Using the vertical direction scrolling mode



Using the horizontal direction scrolling mode



(1) Data capture bar

Indicates capture time and remaining capacity of the capturing media during data capture.

(4) Waveform plot display (real time display)

Displays measurement signals as waveforms in real time.

(7) File name display

Displays the name of the file currently being captured.

(2) Digital display

Displays the input value of each channel in real time.

(5) Compressed waveforms (historical display)

Displays compressed measurement signals of historic data with an adjustable compression factor.

(3) Pen, trigger and alarm display

Displays the position of each channel signal with icons in real time. Also displays the trigger level, position and direction along with alarm thresholds.

(6) Sampling interval display

Displays the currently set sampling interval.

Major Display Functions

The focal point for the MT100 during both setup and operation is its large, easy to see 5.7-in. full color display that can be programmed to operate in a variety of ways to complement both your real time and post recording measurement needs.

Free running (real time)

Primarily used to set up the system to capture data. You can view any input signal as a waveform or digital value.



Capturing (real time)

Data is captured into the Internal memory or USB device. Changing settings, except for some functions, using the MENU key is disabled.



Dual view (real time & historic)

You can replay data during capture. Waveform displayed in the upper screen (right screen, when set to horizontal scroll) is real time data, and the lower screen (left screen, when set to horizontal scroll) is the previously recorded historic data.

Replaying (historic)

After data capture to memory has ceased the display can be dedicated to reviewing previously recorded data.





Major Display Functions (continued)

The MT100's display can be further tailored to adapt to almost any measurement situation. You have control over the number of displayed waveform zones, from one to 10. One zone displays up to ten MT100 channels overlapped; two zones displays up to five channels per zone; five zones displays up to two channels per zone; ten zones displays up to ten channels each in its own zone. Further, each channel's waveform trace can be independently configured for color and trace width, or disabled entirely. Finally, the display can be configured for a bar graph display to yield an entirely different look and feel.

Waveform zones configured as 2 and 10



Typical waveform bar graph displays







User Event Markers Enhance Data Interpretation

With the MT100 you can register as many as eight unique text strings that describe possible events that may occur during recording, and then trigger them during recording to permanently place one or more asynchronously during recording.



Measurement Settings per Channel

The MT100 allows unequalled control over the how you acquire data. From allowing measurement function to be programmed per channel to the application of a moving average filter per channel, the MT100 lets you tailor its operation to exactly what your application demands.

Typical menu screen

MENU	AMP D	ata trig disp	' MARK FILE L	iser i/f (DTHR	
: :	Makir	ng analog 🤅	and pulse,	/logic s	ettings	
	• Disp	olay Logic	/Pulse Dat	ta: Þ		
	CH:	Input	Range	Filter	EU Mi	SC.
	ALL:	-∿DC -	50 V -	Off		∇
	1:	NDC −	50 V -	Off	Off⊽	∇
	2:	-∿DC -	50 V -	Off	Off⊽	∇
······	3:	-∿DC -	50 V -	Off	Off⊽	∇
	4:	-∿DC -	50 V -	Off	Off⊽	∇
	5:	-∿DC -	50 V 🚽	Off	Off⊽	∇
	6:	-∿DC -	50 V -	Off	Off⊽	∇
	7:	-∿DC -	50 V 🚽	Off	Off⊽	∇
	8:	-∿DC	50 V -	Off	Off⊽	∇
···:····	9:	-∿DC -	50 V -	Off	Off⊽	∇
	10:	NDC −	50 V -	Off	Off⊽	∇
18:42	Help?	2				
USB 04 MEM I/F						

Analog and discrete settings overview

Items	Settings	1	Settings 2	Selections Available	
Input				Off, DC(Voltage), TEMP(Temperature), RH(Humidity)	
Range	DC			20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50, 1-5 V	
	TEMP			TC-K, TC-J, TC-T, TC-R, TC-E, TC-B, TC-S, TC-N, TC-W, Pt100, JPt100, Pt1000	
Filter				Off, 2, 5, 10, 20, 40	
EU	Function			Off, ON	
(Scaling settings)	Meas. Value (l	Jpper/Lower)		enter numerical value	
	EU Value (Upp	per/Lower)		enter numerical value	
	Dec pt			1, 10, 100, 1000, 10000	
	Select			Length, Area, Volume, Velocity, Accel., Freq., Mass, Energy, Pressure, Flow, Temp	
	Choose			select	
	Unit			enter text	
Misc.	CALC. Setting	s	CALC.	Off, ON, D/W (CH2 only, calculate with dry bulb CH1/wet bulb CH2)	
			Operation	CHn (+, -, ×, /) CHn	
			Scaling	/ 1000000, / 1000, x 1, x 1000, x 1000000	
			Upper/Lower	enter numerical value	
			Dec pt	1, 10, 100, 1000, 10000	
		Select	Length, Area, Volume, Velocity, Accel., Freq., Mass, Energy, Pressure, Flow, Temp		
		Choose	select		
			Unit	enter text	
	Span settings		Upper/Lower	enter numerical value	
	Annotation stri	ing		enter text (max. 11 characters)	
	Perform Auto 2	Zero ADJ.		► Execute	
	Reset Auto Ze	ro ADJ.		► Execute	
Logic/Pulse	Logic/Pulse			Off, Logic, Pulse	
	Logic	Filter		Off, ON	
	Pulse	Input		Off, Revol., Counts, Inst.	
		Filter		Off, ON	
		Slope		H, L	
		EU	Function	Off, ON	
			Meas. Value	enter numerical value	
			EU Value	enter numerical value	
			Select	Length, Area, Volume, Velocity, Accel., Freq., Mass, Energy, Pressure, Flow, Temp	
			Choose	select	
			Unit	enter text	

Flexible Trigger Settings for Data Capture and Alarms

The MT100 can adapt to virtually any data recording condition, regardless of how unusual. Trigger conditions can be set independently per channel, with Boolean AND and OR operations to combine multiple-channel triggers. Supported trigger states include standard \pm level thresholds as well as window definitions. Triggers can also be configured to set an alarm state on any one of the MT100's four alarm relay outputs.

Trigger settings overview

Trigger	Level	Sett	ings		
• Display	/ Logic	:/Pul	se Dat	a: Þ	
•Combin	nation :	1 🕽	-OR -		
CH: Mo	ode	Low	ier-Lev	/el-Upper	
1: <u></u>	2	+	0.00	► <u>3</u> ¥	
2: ₹ L		+	0.00	⊳ V	
3: 🔤 🛛 i	n In	+	0.00	+ 12.50	$\nabla \nabla$
4 : 🔤 W i	in Out	+	0.00	+ 12.50	$\nabla \nabla$
5: 0)ff -				
6: 0)ff -				
7: 0)ff -				
8: 0)ff -				
9: 0)ff -				
10: 0)ff				
		OK	Car	ncel	

Items	Settings 1	Settings 2	Selections Available
Trigger Settings	Start Source		Off, Level, Alarm, Ext., Date, Weekly
	Off		None
	Level	Combination	OR, AND
		Mode	Analog : Off, H, L, Win In, Win Out
			Pulse : Off, H, L, Win In, Win Out
			Logic : Off, H, L
		Level	set numeric value
	Alarm	Alarm port number	1, 2, 3, 4
	External input		None
	Date		Date, Time
	Weekly		Weekly, Time
	Stop Source		Off, Level, Alarm, Ext., Date, Weekly, Time
	Off		None
	Level	Combination	OR, AND
		Mode	Analog : Off, H, L, Win In, Win Out
			Pulse : Off, H, L, Win In, Win Out
			Logic : Off, H, L
		Level	set numeric value
	Alarm	Alarm port number	1, 2, 3, 4
	External input		None
	Date		Date, Time
	Weekly		Weekly, Time
	Time		1 s to 9999 h 59 min 59 s
	Repeat	Repeat	Off, ON
		Repeat interval	1 min to 199 h 59 min
Alarm Settings	Alarm Level settings	СН	CH1 to CH10, Pulse1 to Pulse4, LOGIC
		Mode	Off, H, L, Win In, Win Out, RC
		Level	set numeric value
		Output	1, 2, 3, 4
	Alarm Hold		On, Off
	Send burnout alarm		On, Off
	Data points of RC Alarm		1 to 32

Flexible Trigger Settings for Data Capture and Alarms (continued)

MT100 trigger and alarm states



The total amount of change in the three points An alarm is generated. is equal to or less than the specified value (ΔV). Alarm is not generated.

Built-in Backup Processes Protect Data

The MT100 provides a built-in facility that allows the instrument to back up data recorded to its internal memory. You can back up to either a standard USB memory stick inserted behind the MT100's front panel, or to a local or remote FTP file server over the MT100's Ethernet interface. Data back up can be either disabled, or set to back up at pre-defined intervals ranging from one to 24 hours.



Item		Description	
Backup Intervals	Sets the interval to perform back up of captured data.		
	Off, 1, 2, 6, 12, 24 h		
Backup Desination	Sets the location where back up data will be stored.†		
	USB1	Data is backed up in the USB memory. This is enabled only when data is captured in the internal Flash memory.	
	FTP	Data is backed up in the FTP server in the network. * FTP settings in the FILE menu is required.	
Folder Name	Specifies the text () \GRAPHT	folder where data will be saved. EC\TEST\20071204	

Built-in Web Server

The MT100 features a built-in web server that allows you to access data and remotely control and configure the instrument from any local or remote location and from any standard Internet browser.



Optional Desktop Enclosure

Mount the MT100 in an appropriately sized panel opening using the supplied hardware, or purchase the optional desktop enclosure with handle for a more portable solution.



MT100 External Dimensions



Dimensional precision: ±5 mm Unit: mm

MT100 Specifications

Overall Specificatio	ns	Function Specifica	tions
Number of analog inputs:	1 unit (10 channels)	Display screen:	Waveform screen + Digital screen (vertical, hori-
External input/output:	Trigger input, Logic input 4 channels or Pulse input 4 channels, Alarm output		zontal), Digital screen + Calculation Display screen, Bar Graph screen (vertical)
PC interface:	Ethernet (10BASE-T/100BASE-TX), USB (Full-		Note: Can be key-toggled
Internal memory devices:	Speed supported) provided as standard features Internal memory: Approx. 14 MB USB memory slot (FullSpeed supported) provided	Sampling interval:	100 ms/10 ch maximum 100, 125, 200, 250, 500 ms; 1, 2, 5, 10, 20, 30 sec; 1, 2, 5, 10, 20, 30 min; 1 h
Data backup functions:	as a standard feature. Setup conditions: EEPROM; Clock: Lithium	TIME/DIV:	1, 2, 5, 10, 20, 30 sec/DIV; 1, 2, 5, 10, 20, 30 min/ DIV; 1, 2, 5, 10, 12, 24, 72 h/DIV
	secondary battery	EU (scaling function):	4 points can be set for each channel
Clock accuracy (23°C environment)	± 0.002 % (approx. 50 seconds per month)	Bar graph display:	Display direction: Vertical, 10 ch + pulse 4 ch Reference position: Bottom or center
Operating Environment:	0 to 50°C, 5 to 85 % RH		Scale divided into: 10 (fixed)
Withstand voltage:	Between each input channel and GND: 1 minute at 350 Vp-p; Between each input terminal: 1 minute at 350 Vp-p; Between AC input and GND: 1 minute at 2000 VAC; Between alarm terminal and GND: 1 minute at 1000 VAC	Review function: Data save functions:	Capture to internal memory; Capture to USB memory; Setup data can be saved (to internal or USB memory); Copy of data screen can be saved (to internal or USB memory); Back up function (in-
Insulation resistance:	Between AC input and GND: 20M or higher (500VDC); Between alarm terminal and GND: 50M or higher (500VDC); Between each input channel and GND: 50M or higher (500VDC)		ternal memory -> USB memory, internal memory -> PC*1, USB memory -> PC*1); File name incre- ment feature.
Power supply:	AC input: 100 to 240 VAC/50 to 60 Hz	Statistical calculation:	Types of statistical calculation: Average value, peak
	Terminal type: M4 screw type terminals		value, maximum value, minimum value, RM
Power Consumption:	AC Power consumption		Number of operations : Maximum of 2 can be set
	No. Condition		Method : Realtime and between cursors specified
	1 When the LCD is ON 38VA 2 When the screensaver is operating 30VA		(during data replay)
	Note: normal status is when LCD brightness is set to MAX		Note: Realtime calculation results are displayed in Digital screen + Calculation Display screen
External Dimensions:	$144 \times 144 \times 200 \text{ mm}$	Calculation between	Calculation types: Addition, subtraction, multipli-
Weight:	2.1 kg	channels:	cation, division
Vibration-tested conditions:	Protective class : IP65 compatible (surface panel only); Vibration : Equivalent to automobile parts Type 1 Category A classification	Wet and dry bulb con- version:	Input : Analog ch 1 to 10 Function: Converts dry bulb or wet bulb tempera- ture to humidity
Internal Memory De	vices		Dry bulb: 1 ch fixed (input temperature, outputs
Memory capacity:	Internal memory : Approx. 14 MB Flash Memory USB memory : Max 2 GB (depends on the type of USB memory used)		temperature) Wet bulb: 2 ch fixed (input wet bulb temperature, calculates humidity with 1 ch; temperature. Outputs humidity.)
Memory contents:	Setup conditions, measured data, screen copy		Measurement range : 0 to 100 % RH.
PC Interface			Note: Some dry bulb or wet bulb temperatures may not be
Interface types:	Ethernet (10BASE-T/100BASE-TX) USB (FullSneed)	Samel fronting	calculated.
Software functions:	Data transfer to the PC (realtime, memory) PC control of the MT100	Search functions:	number of points Search type : Channel, Pulse, Logic, Level, Alarm
Ethernet functions:	Web server function : Displays MT100's screen		search
(10BASE-T/100BASE-TX)	image on Web browser, operation of MT100 FTP server function : Transfers and deletes files	Annotation input func-	Function: A comment can be input for each channel
	from internal memory and USB memory FTP client function : Supports backup of data	Message/marker func-	Number of characters : 11 (displayed up to 8 characters) Function : Records message/marker at the specified
	ininternal memory and USB memory NTP client function · Adjusts internal clock	tion:	timing
USB functions:	USB drive mode : Transfers and deletes files from internal memory		Markers: Start/stop, trigger, alarm, power failure Messages: Input arbitrary messages before capture
Realtime data transfer	100 msec/10 ch maximum	Trigger Functions	
speed:		Repeat Trigger:	Off, On
WONITOR	5.7 inch TET color I CD (OVCA: 220 x 240 dots)	Trigger types:	Start: Data capture starts when a trigger is generated
Displayed languages	Japanese, English, Others	Trigger settings.	Stop: Data capture stops when a trigger is generated Start: Off Level Alarm External Date Weekly
Backlight life:	40,000 hrs (when brightness is down to 50 %),	gger settings.	Stop: Off, Level, Alarm, External, Date, Weekly, Time
	depends on operation environment	Trigger judgment modes:	Analog: H, L, Window In, Window Out
Backlight:	Screen saver function (10, 30 sec; 1, 2, 5, 10, 30, 60 min.); Off during operation, resumed by key operation and alarm		Logic: H, L Pulse: H, L, Window In, Window Out

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MT100 Specifications (continued)

Input/output types:Trigger input (1 ch) · Alarm output (4 ch)Number of input channek.10 chanses.Input specifications:Terminalis type: M4 screw type terminals Maximum input voltage: 0.0 24 V (single-ended ground input)Input metadols.M4 screw type terminals M4 screw type terminalsInput specifications:Terminalis type: M4 screw type terminals Maximum input voltage: 0.0 24 V (single-ended ground input)Scan specielVoltage: 0.1 8/10 ch maximum M1 channek Sov (-1.5 V F.S. Temperature therminal type: M4 screw type terminals thread screw type terminalsAlarm output specifica- toris:Output format: Relay contact output (NO/NC) Terminal type: M4 screw type terminals dudgement, rate of change judgement meet, logic pattern judgment, with datage judgement terminal type: M4 screw type terminals toris:Neasurement accuracy VoltageVoltage: 0.1% of Full ScalePubse input: Scalapt conditions of for change judgement tract of measurement Span: 50, 500, 500, 50k, 500 k, 5 M, 50 M, 500 M KPA/F S.No Sin Scalapt conditions of for cacha sampling interval Resets the count of the number of pulses pro- span: 50, 500, 500 k,	Input/output types: Input specifications: Alarm output specifica- tions: Pulse input:	
 Logic input (4 ch) or Pulse input (4 ch) Alarm output (4 ch) Maximum input voltage: 0 pulse (3 pulse) Terminal type: LM screw type terminals maximum mput voltage: 0 pulse (3 pulse) Maximum input voltage: 0 pulse (3 pulse) Maximum input voltage: 0 pulse (3 pulse) Marm output (5 ch) Maximum input voltage: 0 pulse (3 pulse) Marm output (5 ch) Marm output specifications: Level judgment, window judgment, pulse judgment, rate of change indgement Store and context (2 pulse) Maximum number of pulses per scond (camber of change) (2 pulses per scond (camber of change) (2 pulses per scond (camber of pulses	Input specifications: Alarm output specifica- tions: Pulse input:	
 Alarm output specifications: Terminal type: M screw type terminals Maximum input voltage: 0 to 24 V (single-ended ground input) Input threshold voltage: Approx. 2.5 V Hypersens: Approx. 0.5 V (= 2.5 u + 3 V) Output format: Relay contact output (NO/NC) tions: Terminal type: M screw type terminals Rated: 250 VAC/2A Output format: Relay contact output (NO/NC) tions: Terminal type: M screw type terminals Rated: 250 VAC/2A Output format: Relay contact output (NO/NC) tions: Terminal type: M screw type terminals Rated: 250 VAC/2A Output conditions: Level judgment, window judg- med, logic pattern judgment, rules judgment, rate of change judgment to Strongut conditions of <i>Guu</i> channel vulues. Pulse input: Pulse input: Punction: Counst the number of pulses per sec- ond, cnables them to be converted to rpus Span. 50, 500, 5000, 504, 500 8, 50 M, 500 M, 500 M CF.S. Punction: Counst the number of pulses for cach symmic vision) Vides: 50 V/s may bus a count of the number of pulses for cach symmic vision) Maximum number of pulses input Countrol Software Vides: 50 V/s mplying intraval Revolution counts mode : 50 V/s Mai unit control, realtime data capture, data conversion Mai unit control, realtime data capture, data conversion Mai unit control, realtime data capture, data conversion Main unit control, realtime data capture, data conversion Main unit control, realtime data capture, data conversion	Input specifications: Alarm output specifica- tions: Pulse input:	
Input specification:Terminal type: M4 server type terminals Missionum input volues: $(20 + 24 \lor (single-endedground input)input threshold voltage: (20 + 24 \lor (single-endedground input))input threshold voltage: (20 + 24 \lor (single-endedground input))Sens specif:(3 + 30 \lor (1 + 30 \lor $	Input specifications: Alarm output specifica- tions: Pulse input:	
Maximum input voltage: 0.0 24 V (single-ended ground input) Input threshold voltage: Approx. 2.5 V Hysteresis: Approx. 2.5 V Hysteresis: Approx. 2.5 V Hysteresis: Approx. 2.5 V Hysteresis: Approx. 2.5 V F Z.S. Temperature: Thermocouplex: K.J. F. T. R. S. N. W (WRES-20)8, Resistance temperature det P100, JP100, P1000 (EC751) Humidity: 0.10 100% (voltage: 0.1% of Full Scale Temperature: Thermocouplex: K.J. F. T. R. S. N. W (WRES-20)8, Resistance temperature det P100, JP100, P1000 (EC751) Humidity: 0.10 100% (voltage: 0.1% of Full Scale Temperature: Thermocouplex: K.J. F. T. R. S. N. W (WRES-20)8, Resistance temperature det P100, JP100, P1000 (EC751) Humidity: 0.10 100% (voltage: 0.1% of Full Scale Temperature: Thermocouplex: K.J. F. T. R. S. N. W (WRES-20)8, Resistance temperature det P100, JP100, P1000 (EC751) Humidity: 0.10 100% (voltage: 0.1% of Full Scale Temperature: Thermocouplex: K.J. F. R. S. N. W (WRES-20)8, Resistance temperature det P100, JP100, P1000 (EC751) Humidity: 0.10% of Fis 100 N. BR/MFS. Counts mode (leagines, etc.) Function: Displays count of the number of pulses for each sampling interval Resets the count value after each sa	Alarm output specifica- tions: Pulse input:	
Hystersis: Approx. 0.5 V (+ 2.5 to + 3 V)Alarm output specifica- topul format: Relay contact output (NO/RC) Terminal type : M4 screw type terminals Rated : 250 VAC/2AOutput conditions : Level judgment, window judg- ment, logic pattern judgment, pulse ignuter.N, wite (WRe5-26); Resistance temperature de terminals Rated : 250 VAC/2APulse input:Revelutions mode (engines, etc.) Function: Counts mode (electric meters, etc.) Function: Displays a count of the number of pulses for cets sampling interval Span: 50, 500, 5000, 50 k, 50 k, 5 M, 50 M, 500 M C/F.S. Inst. ModeN, wite wite and the same of measurement Span: 50, 500, 5000, 50 k, 50 k, 5 M, 50 M, 500 M C/F.S.Control Software Control SoftwareWindows 2000, SV, Vist (32-bit version, 64-bit version)Resisting trigger/alarm setting, registing: Allowed connection: Up to 10 Uo channels per econnection:N, wite (WRe5-20); Resistance temperature Resistance temperature Temperature Termicon: Displays a count of the number of pulses for each sampling interval Resistance temperature Maximum number of pulses input counts, Inst. ModeN, soon k, 50	Alarm output specifica- tions: Pulse input:	
Rated: 250 VAC/2Aconversion) * with B-530 (option)Output conditions : Level judgment, pulse judgment, pulse judgment, rate of change judgment, pulse judgment, rate of change judgment ment, logic pattern judgment, pulse judgment, rate of change judgment, pulse judgment	Pulse input:	
ment, logic pattern judgment, rate of change judgmentPressurement regretativeVoltage: voltage:0.1% of Full ScalePulse input:Revolutions mode (regines, tec) Function : Counts the number of pulses per sec- ond; enables them to be converted to rpms Span: 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M RPM/F.S. Counts mode (electric meters, etc.) Function: Displays a count of the number of pulses for cach sampling interval Resets the count value after each sampling interval Resets the count number of pulses interval Resets the count value after each sampling interval Resets the count value after each sampling interval Resets the count value after each sampling interval Resets the count number of pulses interval Resets the count number of pulse input Counts. Inst. Modes : 50 k/sResisting interval Reset the count of the satisfies input resistance: 100 counts indue tata capture, data	Pulse input:	
Pulse judgetent, rate of change judgetent ** Set august condutions of four channel values. Pulse input: Revolutions mode (engines, etc.) Function : Counts the number of pulses per sec- ond; enables them to be converted to rpms Pulse input Temperature Resolutions in the number of pulses per sec- ond; enables them to be converted to rpms MRMF.S. Counts mode (electric meters, etc.) Temperature Resist for cach sampling interval reach sampling interval resist the count value after each sampling interval Resists the count value after each sampling interval Resists the count value after each sampling interval Resists the count value after each sampling interval Resist the count value after each sampling inter	Pulse input:	
Pulse input:Regulations mode (engines, etc.) Function : Counts the number of pulses per second; enables them to be converted to rpms Span : 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M RPM/F.S. Counts mode (electric meters, etc.) Function: Displays a count of the number of pulses for each sampling interval Resets the count value after each sampling interval Span : 50, 500, 5000, 500 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. ModeResistance Temperature Detector:Resistance Temperature TypeResistance Temperature Accuracy : 45.2°Control Software Compatible operating Maximum number of versionWindows 2000, XP, Vista (32-bit version, 64-bit versionResistance Temperature to the maximum to channels; Setting; Allowed connection:Type Measurement ton- Applied James : 50, 500, 500, 500 k, 500 k, 500 k, 500 k, 500 Setting; Allowed connection:Type Measurement Ton- Applied James : 50, 500, 500, 500 k, 50	Pulse input:	
Function : Counts the number of pulses per second; enables them to be converted to rpms Res 100 - Th 5 4300 4.005% of res Span : 50, 500, 5000, 500, 50 k, 500 k, 50 k, 50 k, 50 k, 500 k, 500 Status and the number of pulses B 400 STs 4 1820 ±0.05% of res Counts mode (electric meters, etc.) Function: Displays a count of the number of pulses for each sampling interval from the start of measurement ±0.05% of res ±0.05% of res ±0.05% of res Span : 50, 500, 5000, 50 k, 500 k		
Span : 50, 500, 500, 50 k, 500 k, 5 M, 50 M, 500 K R RPM/F.S. Counts mode (electric meters, etc.) Function: Displays a count of the number of pulses for each sampling interval Span : 50, 500, 500, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. Mode Function: Counts the number of pulses for each sampling interval Resets the count value after each sampling interval Span : 50, 500, 500, 500 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. Mode Function: Counts the number of pulses for each sampling interval Resets the count value after each sampling interval Span : 50, 500, 500, 500 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. Modes : 50 k/sampling interval Resets the count value after each sampling interval Resolution counts mode : 50 k/s Control Software Compatible operating system: Number of channels per connection: Maximum number of channels: Settings. AMP settings, data settings, trigger/alarm settings, report settings, others Captured data: Realime data (CSV, Binary) Marow: / deta (CSV, Binary) M		
Counts mode (electric meters, etc.) Function: Displays a count of the number of pulses for each sampling interval Span : 50, 500, 500, 500, 500 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. Mode Function: Counts the number of pulses for each sampling interval Resets the count value after each sampling interval Span : 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. Mode $k = \frac{-200 \pm 18 \pm 100}{100 \pm 16 \pm 400.4\% of rightto 0.05\% of rightto 0.05\% of rightto 0.05\% of rightto 0.05\% of rightControl SoftwareCompatible operatingsystem:versionWindows 2000, XP, Vista (32-bit version, 64-bitversionResistance TemperatureDetector:TypeMeasurement Tem. AppliedMeasurement Tem. Accuracyto 0.55 \varphiControl SoftwareCompatible operatingsystem:versionWindows 2000, XP, Vista (32-bit version, 64-bitversionYeato 10Measurement Tem. Appliedto 0.55 \varphiControl SoftwareCompatible operatingsystem:versionUp to 10Internal/External switched on (filter O1 s/20 ch sampling, GND connected).Number of channels perconnection:Nammer of channelsreport settings, othersMay settings, trigger/alarm settings,report settings, othersIt is a settings, trigger/alarm settings,report settings, othersCaptured data:Restringe to (CSV, Binary)Adlowable signal sourceresistance:Maximum number of (CSV, Binary)Count of CSV, Binary)Maximum number ofchannels:Maximum number of channels:Control SoftwareOne chancesresistance:Maximum number of channels (CSV, Binary)Maximum number of pulse inputconnection:Reference contactconnection:Maximum number of channels (CSV, Binary)$		
Function: Displays a count of the number of pulses for each sampling interval Span : 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. Mode Function: Counts the number of pulses for each sampling interval Resets the count value after each sampling interval Span : 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S. $= \frac{200 \text{ s Ts} \pm 100}{100 \text{ c Ts} \pm 400}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \pm 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ of } rd}{100 \text{ c Ts} \text{ s } 100}$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100$ $\pm 0.0\% \text{ c } 100 \text{ c Ts} \text{ s } 100 \text{ c } 100 \text{ c Ts} \text{ s } 100 \text{ c } 100 \text$		
the start of measurement Span: 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S. Inst. ModeT $-200 \le Tb \le -100$ $\pm 0.1\%$ of reg $\pm 0.1\%$ of regInst. Mode Function: Counts the number of pulses for each sampling interval Resets the count value after each sampling interval Span: 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S.N $0 \le Tb \le -100$ ± 2.7 J $100 < Tb \le 100$ $\pm 2.00 \le Tb \le -100$ ± 2.7 Control Software Compatible operating systemWindows 2000, XP, Vista (32-bit version, 64-bit version)Resistance Temperature DetectorsType perature Range (°C) (Current Accuracy Applied Measure (FS=1050)the deasure $\pm 0.0\%$ of the second $\pm 0.0\%$ of the second $\pm 0.0\%$ of the second $\pm 0.0\%$ Allowed connection: Maximum number of channels SettingsWindows 2000, XP, Vista (32-bit version, 64-bit version)* $23^{\circ}C \pm 3^{\circ}C$ when 30 minutes have elapsed after the power was switched on (filter O 1 ± 20 of sampling, GND connected).Number of channels Connection:10 o th maximum (D0 ch maximum connection:10 o th maximum (D0 ch maximum (Channels (AD convertion)10 o the sampling, trigger/alarm settings, report settings, others* $23^{\circ}C \pm 3^{\circ}C$ when 30 minutes have elapsed after the power was switched on (filter O 1 ± 20 of sampling, GND connected).Number of channels (ChannelsMP settings, trigger/alarm settings, report settings, others10 o the maximum report settings, others10 o the maximum report settings, trigger/alarm settings, report settings, others10 o the sampling interval report settings, others10 o the sampling interval report settings, others10 o the		
Span : 50, 500, 500 k, 50 k,		
Inst. ModeInst. Mode1-100 < 18 ± 100		
Function: Counts the number of pulses for each sampling interval Resets the count value after each sampling interval Span: 50, 500, 500 k, 500 k, 5 M, 50 M, 500 M C/F.S. N 0 ≤ Ts ≤ 1300 ±(0.1% of rdg W) Span: 50, 500, 500, 50 k, 500 k, 5 M, 50 M, 500 M C/F.S. Maximum number of pulse input Counts, Inst. Modes: 50 k/s Resistance Temperature Detector: Imperature Range CC Current Accuracy: 40.5°C Control Software Windows 2000, XP, Vista (32-bit version, 64-bit version) Windows 2000, XP, Vista (32-bit version, 64-bit version) Pti00 -200 to 500 (FS=700) 1mA ±(0.05% of +0.5°C) Maximum number of channels per connection: Windows 2000, XP, Vista (32-bit version, 64-bit version) * 23°C ±3°C when 30 minutes have elapsed after the power was switched on (filter Or 1s/20 to 500 (FS=700) 1mA ±(0.05% of +0.5°C) Number of channels per connection: Up to 10 10 ch maximum 100 ch maximum * 23°C ±3°C when 30 minutes have elapsed after the power was switched on (filter Or 1s/20 to sampling, GND connected). Reference contact Internal/External switching compensation accuracy: A/D converter: 16 bits (out of which 14 bits are internally acknowledged) Maximum number of splinary) May settings, others Realtime data (CSV, Binary) Maximum permissible Between ±/- terminals : 60 Vp-p		
Sumpting interval Resets the count value after each sampling interval Span : 50, 500, 5000, 500, 500, 500, 50 k, 500 k, 50 M, 500 M C/F.S. Maximum number of pulse input Counts, Inst. Modes : 50 k/sResistance Temperature Detector: $Resistance Temperatureperature Range (°C)Resistance TemperaturePerature Range (°C)Control SoftwareCompatible operatingsystem:versionWindows 2000, XP, Vista (32-bit version, 64-bitversion)Resistance TemperatureDetector:TypeMeasurement Tem-perature Range (°C)AccuracyAccuracy(Cournent Accuracy)Functions:Main unit control, realtime data capture, dataconversionWindows 2000, XP, Vista (32-bit version, 64-bitversion)*23°C \pm 3°C when 30 minutes have elapsed after the power was switched on (filter Or1 s/20 ch sampling, GND connected).Number of channels perconnection:Maximum number ofchannels:Settings:AMP settings, data settings, trigger/alarm settings,report settings, othersInternal/External switchingCaptured data:Realtime data (CSV, Binary)Memory data (CSV, Binary)Index (CSV, Binary)Reference confact(CSV, Binary)Maximum permissibleMaximum permissibleBetween +/- terminals : 60 Vp-p$		
Span: 50, 500, 500k, 50 k, 50 k, 50 k, 50 M, 50 M, 500 M C/F.S. Maximum number of pulse input Counts, Inst. Modes: 50 k/sResistance Temperature Detector:Type Measurement Tem- Applied Measurement Tem- Accuracy Ptio0Applied 40.05% c 40.5%Control Software Compatible operating system: Functions: Main unit control, realtime data capture, data conversionWindows 2000, XP, Vista (32-bit version, 64-bit version)Windows 2000, XP, Vista (32-bit version, 64-bit version)*23°C ±3°C when 30 minutes have elapsed after the power was switched on (filter Or 1s/20 ch sampling, GND connected).Allowed connection: Maximum number of connection: Maximum number of channels: Settings: AMP settings, data settings, trigger/alarm settings, report settings, othersNumber of channels per 100 ch maximum channels: AMP settings, data settings, trigger/alarm settings, report settings, othersReference contact Internal/External switching Captured data: Realtime data (CSV, Binary) Maximum permissibleIndext (CSV, Binary) Maximum permissible	Resets the count value after each sampling interv Span : 50, 500, 5000, 50 k, 500 k, 5 M, 50 M, 50	
M Cr.3. Maximum number of pulse input Counts, Inst. Modes : 50 k/sKesistance reinperature Detector:Measurement Tem- 		
Counts, Inst. Modes : 50 k/sampling interval Revolution counts mode : 50 k/s $Pt100$ $-200 to 850 (FS=700)$ $1mA$ $\pm (0.05\% c_{-0.5\%})$ Compatible operating system: version)Windows 2000, XP, Vista (32-bit version, 64-bit version) $Pt100$ $-200 to 500 (FS=700)$ $1mA$ $\pm (0.05\% c_{-0.5\%})$ Bunctions: connection:Main unit control, realtime data capture, data conversion $23^{\circ}C \pm 3^{\circ}C$ when 30 minutes have elapsed after the power was switched on (filter Or $1 s/20$ ch sampling, GND connected). $* 23^{\circ}C \pm 3^{\circ}C$ when 30 minutes have elapsed after the power was switched on (filter Or $1 s/20$ ch sampling, GND connected).Number of channels per connection:Up to 10Internal/External switching connection: $* 23^{\circ}C \pm 3^{\circ}C$ when 30 minutes have elapsed after the power was switched on (filter Or $1 s/20$ ch sampling, GND connected).Internal/External switching compensation accuracy: $* 23^{\circ}C \pm 3^{\circ}C$ when 30 minutes have elapsed after the power was switched on (filter Or $1 s/20$ ch sampling, GND connected).Internal/External switching connected).Maximum number of channels: Settings: AMP settings, data settings, trigger/alarm settings, report settings, othersAMP settings, trigger/alarm settings, report settings, othersImager (adat (CSV, Binary))Maximum permissibleBetween +/- terminals : 60 Vp-p		
Control Software Jpt100 -200 to 500 (FS=700) 1mA ±(0.05% or +0.5°C) Compatible operating system: Windows 2000, XP, Vista (32-bit version, 64-bit version) P11000 -200 to 500 (FS=700) 0.2mA ±(0.05% or +0.5°C) Functions: Main unit control, realtime data capture, data conversion Windows 2000, XP, Vista (32-bit version, 64-bit version) *23°C ±3°C when 30 minutes have elapsed after the power was switched on (filter Or 1s/20 ch sampling, GND connected). Allowed connection: Up to 10 Internal/External switching Number of channels per connection: 100 ch maximum Internal/External switching Maximum number of channels: 100 ch maximum Finger/alarm settings, report settings, others Imput resistance: Captured data: Realtime data (CSV, Binary) Mamory (data (CSV, Binary)) Maximum permissible Between +/- terminals : 60 Vp-p		
Compatible operating system:Windows 2000, XP, Vista (32-bit version, 64-bit version)Pt1000-200 to 500 (FS=700)0.2mA±(0.05% of +0.5°CFunctions:Main unit control, realtime data capture, data conversionMain unit control, realtime data capture, data conversion23°C ±3°C when 30 minutes have elapsed after the power was switched on (filter Or 1s/20 ch sampling, GND connected).Allowed connection:Up to 10Internal/External switchingNumber of channels per connection:10 ch maximum channels:Internal/External switching (of which 14 bits are internally ac- knowledged)Maximum number of channels:100 ch maximum report settings, othersAMP settings, data settings, trigger/alarm settings, report settings, othersIndu ±5%Captured data:Realtime data (CSV, Binary) Memory data (CSV Binary)Adm convertion:Maximum permissibleBetween +/- terminals : 60 VP-p	Control Software	
Functions: Main unit control, realtime data capture, data conversion Allowed connection: Up to 10 Number of channels per connection: 10 ch maximum Maximum number of channels: 100 ch maximum Settings: AMP settings, data settings, trigger/alarm settings, report settings, others Captured data: Realtime data (CSV, Binary) Maximum permissible Between +/- terminals : 60 Vp-p	Compatible operating	
Allowed connection: Up to 10 Reference contact compensation accuracy: Internal/External switching Number of channels per connection: 10 ch maximum 10 ch maximum A/D converter: 16 bits (out of which 14 bits are internally ac- knowledged) Maximum number of channels: 100 ch maximum Temperature coefficient: Gain: 0.01% of F.S./ °C Settings: AMP settings, data settings, trigger/alarm settings, report settings, others Input resistance: 1 MΩ ±5% Allowable signal source resistance: Within 300 Ω Within 300 Ω Maximum permissible Between +/- terminals : 60 Vp-p	Functions:	
Number of channels per connection: 10 ch maximum Maximum number of channels: 100 ch maximum Maximum number of channels: 100 ch maximum Settings: AMP settings, data settings, trigger/alarm settings, report settings, others Captured data: Realtime data (CSV, Binary) Memory data (CSV, Binary) Maximum permissible Between +/- terminals : 60 Vp-p	Allowed connection:	
Maximum number of channels: 100 ch maximum Temperature coefficient: Gain: 0.01% of F.S./ °C Settings: AMP settings, data settings, trigger/alarm settings, report settings, others Temperature coefficient: Gain: 0.01% of F.S./ °C Captured data: Realtime data (CSV, Binary) Maximum permissible Between +/- terminals : 60 Vp-p	Number of channels per connection:	
Settings: AMP settings, data settings, trigger/alarm settings, report settings, others Input resistance: 1 MΩ ±5% Captured data: Realtime data (CSV, Binary) Allowable signal source Within 300 Ω Memory data (CSV, Binary) Memory data (CSV, Binary) Between +/- terminals : 60 Vp-p	Maximum number of channels:	
report settings, others Allowable signal source Within 300 Ω Captured data: Realtime data (CSV, Binary) resistance: Mamory data (CSV, Binary) Maximum permissible Between +/- terminals : 60 Vp-p	Settings:	
Maximum permissible Between +/- terminals : 60 Vp-p	Captured data:	
USB memory data (CSV, Binary) USB memory data (CSV, Binary) input voltage: Between input terminal/input terminal : 60 Vp-n Between input terminal/GND : 60 Vp-n		
Display: Analog waveforms, logic waveforms, pulse wave- forms, digital values Withstand voltage: Between input terminal/input terminal : 1 minu 350 Vp-p	Display:	
Display modes: Y-T View, X-Y View, Digital View, Meter View, Report View Insulation resistance: Between input terminal/GND : 1 minute at 350 Insulation resistance: Between input terminal/GND : At least 50000	Display modes:	
File conversion: Between cursors, All data 500 VDC)		
Wonitor functions: Alarm monitor enables sending of email to the specified address Common mode rejection At least 90 dB (50/60 Hz; signal source 300 G ratio: less)	File conversion:	
Statistic/History: Displays maximum minimum and average values	File conversion: Monitor functions:	
Statistic filstory.Displays maximum, minimum, and average values during measurementFilter:Off, 2, 5, 10, 20, 40Report function:Enables creation of daily or monthly filesFilter operation is on a moving average basis. The average value of the set sampling count is used	File conversion: Monitor functions: Dual-screen function: Statistio/Ulistany	

	50 V; 1-5 V F.S.					
	Temperature: Thermocouples: K, J, E, T, R, S, B,					
	N, W (WRe5-26); Resistance temperature detector:					
	Pt100, JPt100, Pt1000 (IEC751)					
	Humidi	ty: 0 to 100% (volta	ge 0 V	to I V scaling		
4 4	convers	10n) *With B-530 (C	ption)			
rement accuracy^	0.10/					
voltage:	0.1% 01	Full Scale				
(Thermocouple):	тс	Measurement Temper Range (°C)	ature	Measurement		
(Thermocoupie).		0 ≤ Ts ≤ 100		±5.2		
	R/S	100 < Ts ≤ 300 P: 300 < Ts < 160	0	± 3.0		
		S: 300 < Ts ≤ 176	0	±(0.05% of rdg +2.0)		
	В	400 ≤ Ts ≤ 600		± 3.5		
		-200 ≤ Ts ≤ -100		$\pm (0.05\% \text{ of rdg} + 2.0)$ $\pm (0.05\% \text{ of rdg} + 2.0)$		
	ĸ	-100 < Ts ≤ 1370)	±(0.05% of rdg +1.0)		
	Е	-200 ≤ Ts ≤ -100 -100 < Ts ≤ 800		±(0.05% of rdg +2.0) ±(0.05% of rdg +1.0)		
	т	-200 ≤ Ts ≤ -100		±(0.1% of rdg +1.5)		
		-100 < Ts ≤ 400		±(0.1% of rdg +0.5)		
	J	-100 < Ts ≤ 100		±1.7		
		100 < Ts ≤ 1100		$\pm (0.05\% \text{ of rdg} + 1.0)$		
	N $0 \le Is \le 1300$ $\pm (0.1\% \text{ of } rdg \pm 1.0)$ W $0 \le Ts \le 2000$ $\pm (0.1\% \text{ of } rdg \pm 1.5)$					
	Referen	ce contact compensatio	n accura	cy: ±0.5°C		
	Thermo	couple diameters T: 0.32	?φ, othe	rs: 0.65 φ		
tance Temperature	Type	Measurement Tem-	Applied	Measurement		
Detector:	71	-200 to 850	Current	t Accuracy (°C)		
	Pt100	(FS=1050)	1mA	+0,5°C)		
	Jpt100 -200 to 500 (FS=700) 1mA ±(0.05% of rdg +0.5°C)					
	Pt1000	2t1000 -200 to 500 (FS=700) 0.2mA ±(0.05% of rd +0.5°C)				
+3°C when 30 minutes ha	ve elanse	d after the power was	switche	d on (filter On (10)		
n sampling, GND connect	ted).	a unter the power was	Switches	a on (inter on (10),		
Reference contact	Internal	/External switching				
ensation accuracy:		-				
A/D converter:	16 bits knowle	(out of which 14 bit dged)	s are in	ternally ac-		
erature coefficient:	Gain: 0	.01% of ES/°C				
Input resistance:	1 MΩ ±	:5%				
vable signal source	Within 300 O					
resistance:						
kimum permissible	Betwee	n +/- terminals : 60	Vp-p			
input voltage:	Between input terminal/input terminal : 60 Vp-p					
Withstand voltage:	Betwee	n input terminal/inpu	it termi	nal: 1 minute at		
	350 Vp-	-p		nur . i minute at		
	Between	n input terminal/GN	D : 1 m	inute at 350 Vp-p		
sulation resistance:	Betwee 500 VD	n input terminal/GN C)	ID : At	least 50M Ω (at		
ion mode rejection	At least	90 dB (50/60 Hz; s	ignal s	ource 300 Ω or		
ratio:	less)					
Noise:	At least	48 dB (with +/- ter	minals	shorted)		

MT100 Included and Optional Accessories

Included Accessories

Item	Description	Quantity
Quick Start Guide	MT100-UM-8xx	1
CD-ROM	MT100-CDM0xM (User Manual, Application software)	1
Panel mount bracket	1 set includes two brackets	2

Optional Desktop Case model B-541

ltem	Description		
Contents	Desktop case, power cable (corresponding to area), instruction manual, screws (4)		
Power supply cord rating and length	UL : 125 V/10 A Approx. 1.8 m U suffix		

Optional Humidity Sensor model B-530

Item	Description
Alowable temperature range	-25 to 80°C
Allowable Humidity Range	0 to 100%
Relative humidity measurement accuracy	±3% RH (5 to 98% RH at 25°C)
Method	Capacitance method
Relative humidity measurement accuracy 5 to 98%	0 to 10°C (±5%RH); 10 to 20°C (±4%RH); 20 to 30°C (±3%RH); 30 to 40°C (±4%RH); 40 to 50°C (±5%RH); 50 to 60°C (±6%RH); 60 to 70°C (±7%RH); 70 to 80°C (±8%RH)
Response time	15 s (90% response when membrane filter installed)
Sensor output	0 to 1 VDC
Sensor power source	5 to 16 VDC
Power consumption	approx. 4mA
External dimensions	14mm × 80 mm (excluding cable)
Cable length	3m

Ordering Guide						
Description	Order No.	Description	Order No.			
MT100 Paperless chart recorder and data logger with 10 isoloated analog inputs that can be programmed on a channel-by channel basis to measure voltage from ± 20 mV to 50V full scale across 12 ranges, thermocouple- or RTD-based temperature, or 4-20 or 0-20 mA current loops.	MT100	Desktop Case Portable desktop enclosure with handle for portability.	B-541			
		Humidity Sensor 3-meter with dedicated power connector.	В-530			
		Resistor Precision 250 Ω resistor, 0.1%	R250			



DATAQ Instruments, Inc. 241 Springside Drive Akron, Ohio 44333 Phone: 330-668-1444 Fax: 330-666-5434

Data Acquisition Product Links

(click on text to jump to page)

Data Acquisition | Data Logger | Chart Recorder

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