## LCD Display PID Control Temperature Controller [TX Series]

Series		TX4S							
Appearances & Dimensions		[W48×H48×L45mm]							
Power suppl	ly	100-240VAC 50/60Hz							
Allowable vo	oltage range	90 to 110% of rated voltage							
Power consu	umption	Max. 8VA							
Display metl	nod	11-segment (PV: white, SV: green), other display (yellow) with LCD method <sup>**1</sup>							
Character	PV(W×H)	6.9×15.3mm							
size	4.1×9.2mm								
Input type	RTD	DPt100 $\Omega$ , Cu50 $\Omega$ (permissible line resistance max. 5 $\Omega$ )							
input type	TC	K(CA), J(IC), L(IC), T(CC), R(PR), S(PR)							
Display	RTD	◆At room temperature (23°C±5°C): (PV ±0.3% or ±1°C, select the higher one) ±1-digit ◆Out of room temperature: (PV ±0.5% or ±2°C, select the higher one) ±1-digit							
accuracy	TC	(for more information, refer to the  Specification)							
	Relay	250VAC 3A 1a							
Control output	SSR	Max. 12VDC ± 2V 20mA							
ουιραι	Current	DC4-20mA or DC0-20mA (load resistance max. 500Ω)							
	Alarm output	AL1, AL2 Relay: 250VAC 3A 1a							
Option output	Trans. output	DC4-20mA (load resistance max. 500Ω, output accuracy: ±0.3%F.S.)							
	Com. output	RS485 Communication output (Modbus RTU method)							
Sampling pe	eriod	50ms							
Control meth	nod	ON/OFF P PI PD PID							
Reference		H-11 to 25							

 $<sup>\</sup>times$ 1. When using the unit at low temperature (below 0°C), display cycle is slow. Control output operates normally.

#### 2/4-CH Modular Type, PID Control Temperature Controller [TM Series]

Series		TM2	TM4					
Appeara & Dimension		( € c N us [€ [W30×H100×L84.8mm]	W30×H100×L84.8mm]					
No. of ch			2 CH (insulated each channel-dielectric strength 1,000VAC) 4 CH (insulated each channel-dielectric strength 1,000VAC)					
Power su		24VDC						
Permissib	le voltage range	90 to 110% of rated voltage						
		Max. 5W (for max. load)						
Display r	method	None- parameter setting and monitoring is available at exter	rnal devices (PC, PLC, etc.)					
Input		K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(T	T), G, (TT), L(IC), U(CC), Platinel II					
-7		JPt100Ω, DPt100Ω (permissible line resistance max. $5\Omega$ )						
Sampling	g period	50ms (2CH synchronous sampling)	100ms (4CH synchronous sampling)					
Measured	Thermocouple RTD	PV ±0.5% or ±1°C, select the higher one) ±1-digit max. (for more information, refer to the ■ <b>Specification</b> )						
accuracy	CT input	±5% F.S. ±1-digit max.	_					
	Current output	±1.5% F.S. ±1-digit max.	_					
Control		250VAC 3A 1a						
output	SSR	Max. 12VDC ±3V 30mA	Max. 22VDC ±3V 30mA					
output		Selectable DC 4-20mA or DC 0-20mA (load resistance max. 500Ω)	_					
		250VAC 3A 1a	<del>-</del>					
output		RS485 communication output (Modbus RTU method)						
		0.0-50.0A (primary current measurement range)  XCT ratio=1/1000	_					
Option input	Digital input	Contact input: ON max. 1kΩ, OFF min. 100kΩ Solid-state input: ON residual voltage max. 1.5V, OFF leakage current max. 0.1mA Outflow current: Approx. 0.5mA per input	_					
	Heating, Cooling Heating&Cooling	CMOFF F FI FD FID						
Reference	ce	H-26 to 34						

H-2 Autonics

# **Product Overview**

## High Performance, General-Purpose, PID Control Temperature Controller [TK Series]

Series		TK4N	TK4S	TK4SP	TK4M	TK4W	TK4H	TK4L		
		( C c <b>33</b> 2 us	C & RU us Line-up	C & RUS US	C & c SN us Line-up	C & RU us Line-up	C (c SN) us Line-up	C & RU us Line-up		
Appea & Dimen	arances	1000 izos	1300	1300	8800 11800 11800	0808 ·	#888 #1888	88887		
	140	[W48×H24×L91.8mm]][W48×H48×L64.5mm] [W48×H48×L72.2mm] [W72×H72×L64.5mm][W96×H48×L64.5mm] [W48×H96×L64.5mm] [W96×H96×L64.5mm]								
Power supply										
	/ to/bo power			2, 24-48VDC						
Allowa	ble voltage range									
Power	AC power AC/DC power	Max. 6VA	Max. 8VA	O 50/0011-) Ma	- FW (04 40)/DC	<u> </u>				
		7.0	,		x. 5W (24-48VDC	<u> </u>		-		
	y method	,	1 0 /	Otner display pa	art (green, yellow,			44.000.0		
Chara size	cter PV (W×H)	4.5×7.2mm	7.0×14.0mm		7.0×14.6mm	9.5×20.0mm	8.5×17.0mm	11.0×22.0mm		
3v (waii) 3.3a3.0iiiii 3.0a10.0iiiii   0.0a12.0iiiii   7.3a13.0iiiii   0.0a12.0iiiii   7.3a13.0iiiii						7.0×14.0mm				
ا بد ا	RTD Thermocouple				. , , , ,		) Distinct II (4	2 + )		
type L					), N(NN), C(TT),	. , , , , , , ,		3 types)		
_	Analog				Current: 0-20mA, ±1°C, select the h					
> >>	RTD Thermocouple	<ul> <li>Out of room te</li> </ul>	mperature range	: (PV ±0.5% or ±	2°C, select the hi for more informat	gher one) ±1-dig	it	)		
Dist.	Analog	At room tempe	rature (23°C±5°C	): ±0.3% F.S. ±1	-digit, • Out of roo	om temperature r	ange: ±0.5% F.S	S. ±1-digit		
	CT input	±5% F.S. ±1-dig	it							
	Relay	OUT1, OUT2: 2	50VAC 3A 1a							
Contro output		Max. 11VDC ±2	V 20mA							
	Current	Selectable DC4	-20mA or DC0-20	OmA (resistive loa	ad max. 500Ω)					
Sub	PV transmission	DC4-20mA (res	stive load 500Ω	max., accuracy:	±0.3% F.S.)					
output	Communication	RS485 commur	ication output (N	lodbus RTU)				-		
Alarm	output	AL1, AL2 Relay	250VAC 3A 1a	(XTK4N AL2: 25	0VAC 0.5A 1a (m	nax. 125VA), TK4	SP: AL1 only)			
Sampl	ling period	50ms								
Contro methor	Heating, cooling Heating&cooling									
Refere		H-35 to 58						-		
COLOTE	,,,oo	50 10 00						,		

(A) Photoelectric Sensors

c) oor/Area ensors

)) roximity ensors

otary ncoders

M) acho / peed / Pulse leters

N) isplay inits

(P) Switching Mode Power Supplies

(R) Graphic/ Logic Panels

H-3 **Autonics** 

## **Dual Display, PID Control Temperature Controller [TCN Series]**

Series		TCN4S	TCN4M	TCN4H	TCN4L				
		<b>C € cFM</b> ′us	<b>(€ c¶</b> us	<b>(€:\$1</b> 2°us	<b>( € c<b>%</b>2° us</b>				
Appearances & Dimensions		1368 =:1886 == 000	#200. =: 8300. = @@a	8288 8388 8388 8388 8388					
		[W48×H48×L64.5mm]	[W72×H72×L64.5mm]	[W48×H96×L64.5mm]	[W96×H96×L64.5mm]				
Power	AC power	100-240VAC 50/60Hz							
supply	AC/DC power	24-48VDC, 24VAC 50/60Hz							
Allowable vo	Itage range	90 to 110% of rated volta	age						
Power	AC power	Max. 5VA (100-240VAC 50/60Hz)							
consumption	AC/DC power	Max. 5VA (24VAC 50/60	Hz), Max. 3W (24-48VD)	C)					
Display meth	nod	7 Segment (PV: red, SV: green), Other display part (green,red) LED method							
Character	PV (W×H)	W7.0×H15.0mm	W9.5×H20.0mm	W7.0×H14.6mm	W11.0×H22.0mm				
size	SV (W×H)	W5.0×H9.5mm	W7.5×H15.0mm	W6.0×H12.0mm	W7.0×H14.0mm				
Input type	RTD	DPt100Ω, Cu50Ω (allow	able line resistance max	$5\Omega$ per a wire)					
iiiput type	Thermocouple	K(CA), J(IC), L(IC), T(CC	C), R(PR), S(PR)						
Display	RTD			±1°C, select the higher one 2°C, select the higher one)					
accurácy	Thermocouple	※For TCN4S-□-P, add : (for more information,	±1°C by accuracy standa , refer to the <b>■ Specific</b> a		-				
Control	Relay	250VAC 3A 1a							
output	SSR	Max.12VDC ±2V 20mA							
Alarm output	t	AL1, AL2 Relay: 250VAC 1A 1a							
Sampling pe	riod	100ms							
Control meth	iod	ON/OFF P PI	PD PID						
Reference		H-59 to 71							

## Single Display, PID Control Temperature Controller [TC Series]

Series		TC4S	TC4SP	TC4Y	TC4M	TC4W	TC4H	TC4L			
Appearances & Dimensions		( <b>( R</b> ) us	CE c PU us	CE c PM us	CE cRus	CE c PN us	(	(			
		[M/48×H48×I 64 5mm]	IM/48×H48×I 72 2mm	1 IW72×H36×I 77mm1	[M72×H72×I 64 5mm]	IW06×H48×I 64 5mm	1 IW/48×H06×I 64 5mm				
Power	AC power	[W48×H48×L64.5mm] [W48×H48×L72.2mm] [W72×H36×L77mm] [W72×H72×L64.5mm] [W96×H48×L64.5mm] [W48×H96×L64.5mm] [W96×H96×L64.5mm] [W96×H96×L64.5									
supply	<u> </u>	24-48VDC, 24VAC 50/60Hz									
Allowable vo	Itage range	90 to 110% of rated voltage									
Power	AC power	Max. 5VA (100-	240VAC 50/60H	Hz)							
consumption	AC/DC power	Max. 5VA (24VAC 50/60Hz), Max. 3W (24-48VDC)									
Display meth	iod	7 Segment (red), Other display part (green, yellow, red) LED method									
Character size	ze (W×H)	7.0×15.0mm   7.4×15.0mm   9.5×20.0mm   9.5×20.0mm   7.0×14.6mm   11.0×2					11.0×22.0mm				
Input type	RTD	DPt100Ω, Cu50	Ω (allowable lin	ne resistance ma	x. 5Ω per a wire	)					
input type	Thermocouple	K(CA), J(IC), L(	IC)								
Display	RTD				or ±1°C, select th						
accuracy	Thermocouple				±2°C, select the . (for more inform			tion)			
Control	Relay	250VAC 3A 1a									
output	SSR	Max. 12VDC ±2	2V 20mA								
Alarm output		AL1, AL2 Relay: 250VAC 1A 1a (XTC4SP, TC4Y have AL1 only.)									
Sampling pe	riod	100ms									
Control meth	od	ON/OFF P	ON/OFF P PI PD PID								
Reference		H-72 to 85									

H-4 Autonics

**Dual PID Control Temperature Controller [TZN Series]** 

Series			TZN4S	TZN4M	TZN4W	TZN4H	TZN4L			
			<b>(€:\$4</b> 2′us	<b>C € cFL</b> us	C € c <b>93</b> ° us	( € c <b>FL</b> us	( € c <b>91</b> us			
Appearances & Dimensions				INFILITIC CONTINUE  INFILI	Trans	1300	THEFTATURE CONTROLLE  PV			
		1.0	[W48×H48×L90mm]	[W72×H72×L73mm] [W96×H48×L100mm] [W48×H96×L100mm] [W96×H96×L100mm]						
Power		AC power	100-240VAC 50/60Hz							
supply		AC/DC power	00.1: 4400/ : 5 : -1: -1		1-48VDC (only for 1ZN4	4M Series)				
Allowab	ie voi	Itage range	90 to 110% of rated v	/oitage						
Power consum	ntion	AC power	Max. 5VA (100- 240VAC 50/60Hz)	Max. 6VA (100-240VAC 50/60Hz)						
AC/DC power			<u> </u>	Max. 8VA (24VAC 5	0/60Hz), Max. 7W (24-	48VDC) (only for TZN4	IM Series)			
Display	meth	od		SV: green) LED meth	od					
Charact	er	PV (W×H)	7.8×11.0mm	8.0×13.0mm	8.0×10.0mm	7.8×11.0mm	9.8×14.2mm			
size		SV (W×H)	5.8×8.0mm	5.0×9.0mm	8.0×10.0mm	5.8×8.0mm	8.0×10.0mm			
		RTD	DPt100Ω, JPt100Ω, 3wire (allowable line resistance max. 5Ω per a wire)							
Input typ	oe .	Thermocouple	K(CA), J(IC), R(PR), E(CR), T(CC), S(PR), N(NN), W(TT) (allowable line resistance max. 100Ω)							
		Analog	1-5VDC, 0-10VDC, [	OC4-20mA						
Display	accu	racy	F.S. ±0.3% or 3°C, select the higher one							
Control	Rela	,	250VAC 3A 1c							
output	SSR		Max. 12VDC ±3V 30	mA						
	Curr	ent	DC4-20mA (max. loa	id 600Ω)						
		ransmission	<del>-</del>	DC4-20mA (max. lo	ad 600Ω)					
Sub	EVE		250VAC 1A 1a							
output	EVE	NT2	<u>                                     </u>	250VAC 1A 1a						
	Com	munication	_	RS485 (PV transmis	ssion, SV setting)					
Samplin	g pei	riod	0.5 sec							
Control	meth	od	ON/OFF P	PI PD PIDF	PIDS					
Reference H-91 to 106										
× AC/DC	volta	ge type is except l	JL certification.							

Dual PID Control Temperature Controller [TZ Series]

Series		GOILLOI I	TZ4SP	TZ4ST	TZ4M	TZ4W	TZ4H	TZ4L				
			<b>(€ c<b>91</b>) us</b>	<b>C € c\$1</b> \$ us	<b>(€ ₀‱</b> us	<b>C € c91</b> 0 us	<b>C € c91</b> 2 us	<b>C € c91</b> 2′us				
Appearances & Dimensions			# 8 8 9 8 # 8 9 8 8 ####################	# 8 8 9 9 E 8 9 8 9 B 1200 E 8 9 8 9 B 1200 E 8 9 8 8 B 1200 E 8 9 B 1	C B B B B	** 399 ** 400	V 399 V 3980 1201	* 1888   H				
		A C = =			[[W72×H72×L100mm]	[W96×H48×L100mm	] [W48×H96×L100m	m] [W96×H96×L100mn				
Power supply		AC power AC/DC power	100-240VAC 50/6	24VAC 50/60Hz / 24-48VDC (only for TZ4SP, TZ4ST, TZ4L)								
117	lo vo		90 to 110% of rate		1 1245P, 12451, 1	Z4L)						
Allowable voltage range			Max. 5VA (100-24		May 6\/\ (100.24	10\/AC E0/60H=\						
Power consumption AC/DC power		'	Max. 7VA (24VAC Max. 6W (24-48V	50/60Hz),	Max. 6VA (100-240VAC 50/60Hz)			Max. 8VA (24VA 50/60Hz), Max. 7W (24-48VDC)				
Display method			7 Segment (PV: re	ed, SV: green) LED	method			,				
Characte	er	PV (W×H)	4.8×7.8mm		9.8×14.2mm	8.0×10.0mm	3.8×7.6mm	9.8×14.2mm				
size		SV (W×H)	4.8×7.8mm		8.0×10.0mm	8.0×10.0mm	3.8×7.6mm	8.0×10.0mm				
		RTD	DPt100Ω, JPt100Ω, 3wire (allowable line resistance max. $5Ω$ per a wire)									
Input typ	ре	Thermocouple	K(CA), J(IC), R(PI	R), E(CR), T(CC), \$	S(PR), N(NN), W(T	T) (allowable line	resistance max. 1	00Ω)				
		Analog	1-5VDC, 0-10VD0	C, DC4-20mA								
Display a	accu	racy	F.S. ±0.3% or 3°C, select the higher one									
041	Rela	,	250VAC 3A 1c									
Control output	SSF	₹	Max. 12VDC ±3V	30mA								
- Carpar	Curi		DC4-20mA (max.	, ,								
		transmission	<u> </u>	DC4-20mA (max.	load 600Ω)							
Sub	-	NT1	250VAC 1A 1a									
output	EVE	NT2	_	250VAC 1A 1a	1a							
	Con	nmunication	<u> </u>	l—	RS485 communic	ation						
Control t	type		ON/OFF P PI PD PIDF PIDS									
Samplin	g pei	riod	0.5 sec									
Referen			H-91 to 106									
X AC/DC	volta	ge type is except l	JL certification.	·	·	·	•	•				

H-5 **Autonics** 

(A) Photoelectric Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(F) Rotary Encoders

(G) Connectors/ Connector Cables/ Sensor Distribution Boxes/Sockets

(I) SSRs / Power Controllers

(J) Counters

(M) Tacho / Speed / Pulse Meters

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic/ Logic Panels

#### Thumwheel Switch Setting Type Temperature Controller [T3/T4 Series]

Series		T3S	ТЗН	ТЗНА	T3HS	T4M	T4MA	T4L	T4LA	T4LP
Appearances & Dimensions		[W48×H48×L77.8mm]	[W48×H9	6×I 70mm		IW72×H7′	2×L75mm]	IW96×H	96×L70m	To an
Power supply		100-240VAC 50/60Hz	1[	0 2.0		[		<u>[[</u>	2.0	
Allowable voltage r	ange	90 to 110% of rated vo	90 to 110% of rated voltage							
Power consumptio		Max. 5VA								
Display method		7-segment (red) LED method								
Character size (W)	<Н)	3.8×7.6mm	6.0×10.0r	nm				8.0×14.2	2mm	
Innut tune	RTD	DPt100 $\Omega$ (Allowable line resistance max.5 $\Omega$ per a wire)								
Input type	TC	K(CA), J(IC)				K(CA), J(	IC), R (PR)			
Display	RTD	•At room temperature (23°C ± 5°C): (PV ± 0.5% or ±1°C, select the higher one) ±1-digit								
accuracy <sup>*1</sup>	TC	Out of room temperature range: (PV± 0.5% or ±2°C, select the higher one)					±1-digit	-		
	Relay	OUT1: 250VAC 5A 1c,	OUT2: 25	0VAC 2A 1	c <sup>*2</sup>				-	
Control output	SSR	Max. 12VDC±2V 20mA	١						-	
	Current	DC4-20mA (resistive lo	ad max. 5	00Ω)						
Alarm/Sub/Dual se	tting output	_		250VAC 2	2A 1c	_	250VAC 2A 1a		250VAC	2A 1c
Sampling period		100ms								
Control method		ON/OFF P								
Hysteresis		F.S. 0.5%	F.S. 0.2 to	3% varia	ole					
Proportional band		F.S. 3%	F.S. 1 to 1	10% variab	le					
Proportional cycle		20 sec								
RESET range		F.S3 to 3% variable								
Reference		H-107 to 115								

<sup>X1: In case of the T3S Series and the decimal point display models
At room temperature (23°C±5°C): (PV ±0.5% or ±2°C, select the higher one) ±1-digit
Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1 digit.

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1 digit.

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1.

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1.

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1.

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Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1.

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1.

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher or ±1.

Out of ro</sup> 

#### **Temperature Indicator [T3/T4 Series]**

Series		T3NI	T4YI	T4WI	T3SI	ТЗНІ	T4MI	T4LI		
Appearance: & Dimensions	6	S G G	#888°	1200 vin 100	MOICATOR C	NOCATON	ADCATOR	NOCATOR		
		[W48×H24×L48mm]	[W72×H36×L93mm]	[W96×H36×L100mm]	[W48×H48×L77.8mm]	[W48×H96×L70mm]	[W72×H72×L75mm]	[W96×H96×L70mm]		
Power suppl	y	12-24VDC	VDC 100-240VAC 50/60Hz							
Allowable vo	Itage range	90 to 110% of ra	ited voltage							
Power consu	ımption	Max. 1W	Max. 3VA							
Display meth	od	7-segment (red) LED method								
Character size	ze (W×H)	3.8×7.6mm	8.0×14.2mm		3.8×7.6mm	6.0×10.0mm		8.0×14.2mm		
Innut tune	RTD	DPt100Ω (Allow	able line resistar	nce max.5Ω per a	a wire)					
Input type	TC	K(CA), J(IC)					K(CA), J(IC), R	(PR)		
Display	RTD	•At room tempe	rature (23°C ± 5	°C): (PV ± 0.5%	or ±1°C, select tl	ne higher one) ±	1-digit			
accuracy*1	TC	<ul> <li>Out of room te</li> </ul>	mperature range	e: (PV± 0.5% or ±	2°C, select the h	nigher one) ±1-di	git			
Sampling pe	riod	100ms								
Reference		H-116 to 121								

H-6 Autonics

Out of room temperature range: (PV ±0.5% or ±3°C, select the higher one) ±1-digit %2: Dual output of the T4LP is fixed as relay output and, it is also available as alarm output.

# **Product Overview**

## Analog, Non-Display, PID Control Temperature Controller [TA Series]

Series		TAS	TAM	TAL	1			
		( € c <b>?N</b> °us	(€ : <b>%)</b> us	(€ e <b>91</b> us				
Appearances & Dimensions			Out 100 100 100 100 100 100 100 100 100 10	200 300				
		in the second se	TAM PARAMETERS	400 J				
		[W48×H48×L66.7mm]	[W72×H72×L64.5mm]	[W96×H96×L64.5mm]				
Power s	supply	100-240VAC 50/60Hz						
Allowab	le voltage range	90 to 110% of rated voltage						
Power c	consumption	Max. 4VA						
Display	method	Deviation LED (red, green), Output LED (red) method						
Setting t	type	Dial setting						
Setting a	accuracy <sup>×1</sup>	F.S. ±2% (room temperature 23°C±5°C)						
Input	RTD	DPt100Ω (allowable line resista	ance max. 5Ω per a wire)					
type	Thermocouple	K(CA), J(IC)			1			
Control	Relay	250VAC 3A 1c						
output	SSR	Max. 12VDC ±2V 20mA			1			
Control method		ON/OFF PID	ON/OFF PID					
Samplin	g period	100ms						
Referen	ce	H-86 to 90						
% 1 · Out	of room tompored	turo rango: Polour 100°C model is	FS +4% over 100°C model is FS	+20/	4			

X1: Out of room temperature range: Below 100°C model is F.S. ±4%, over 100°C model is F.S. ±3%

#### Analog, Non-Display Type Temperature Controller [TOS/TOM/TOL Series]

Series		TOS	ТОМ	TOL	<b>⊣</b> †			
Appeara & Dimensi		c PN us	ON 4 POFF 25	ON W CITY THE				
		[W48×H48×L79mm]	[W72×H72×L112mm]	[W96×H96×L100mm]	8			
Power s	supply	100-240VAC 50/60Hz	110/220VAC 50/60Hz					
Allowabl	le voltage range	90 to 110% of rated voltage						
Power c	consumption	Max. 2.2VA	Max. 3VA		8			
Setting t	type	Dial setting						
Setting a	accuracy	F.S. ±2%						
Display	method	LED ON	LED ON/OFF					
Input	RTD	DPt100Ω	•					
type	Thermocouple	K(CA), J(IC)						
Control	Relay	250VAC 2A 1c	250VAC 3A 1c		()			
output	SSR	Max. 12VDC ±3V 20mA						
Control t	type	ON/OFF P						
Referen	ice	H-122 to 125						

(A) Photoelectric Sensors

(B) Fiber Optic

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure

> (F) Rotary Encoders

(G) Connectors/ Connector Cables/ Sensor Distribution Boxes/Sockets

(H) Temperature Controllers

SSRs / Power Controllers

(J) Counters

1)

(M) Tacho / Speed / Pulse

(N) Display Units

Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic/ Logic Panels

> S) Field Network

(T) Software

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## **Refrigeration Temperature Controller [TC3YF Series]**

Model	TC3YF-11R *1	TC3YF-14R *1	TC3YF-21R	TC3YF-24R	TC3YF-31R	TC3YF-34R		
Appearances & Dimensions	c Sus (only for AC voltage type	N72×H36×L77mm]						
Power supply	12-24VDC	100-240VAC 50/60Hz	12-24VDC	100-240VAC 50/60Hz	12-24VDC	100-240VAC 50/60Hz		
Allowable voltage range	90 to 110% of rate	90 to 110% of rated voltage						
Power consumption	Max. 8W	Max. 4VA	Max. 8W	Max. 4VA	Max. 8W	Max. 4VA		
Display method	7 Segment (red) I	_ED method						
Character size (W×H)	7.4×15.0mm							
Input type	NTC: Thermistor,	RTD: DPt100Ω (cu	istomizable)					
Display range	NTC: -40.0 to 99.	9°C (-40 to 212°F),	RTD: -99.9 to 99.9	°C (-148 to 212°F)*	2			
Display accuracy	(PV ±0.5% or ±1°	C, select the higher	one) ±1-digit					
Control output	Compressor outp (250VAC 5A 1a)	ut	Compressor output (250VAC 5A 1a) Defrost output (250VAC 10A 1a)		Compressor output (250VAC 5A 1a) Defrost output (250VAC 10A 1a) Evaporation-fan output (250VAC 5A 1a)			
Sampling period	0.5 sec							
Control method	ON/OFF							
Reference	H-126 to 131							

X1: It is natural defrost type without defrost function.

## Simple Operation Type Temperature Controller [TC3YT Series]

Model	TC3YT-B4R	TC3YT-B4R16	
Appearances	[W72×H36×L77mm]		
& Dimensions			
Power supply	100-240VAC 50/60Hz		
Allowable voltage range	90 to 110% of rated voltage		
Power consumption	Approx. 4VA		
Display method	7 Segment(red) LED method [Deviation "■" signal(Green),	unit display(Yellow)]	
Character size (W×H)	7.4×15.0mm		
Input type	TC: K(CA), J(IC), RTD: DPt100Ω (DIN)		
Control period	1 to 120 sec		
Control output	Relay output 250VAC 3A 1c	Relay output 250VAC 16A 1c	
Sampling period	500ms		
Control method	ON/OFF P		
Reference	H-132 to 137		

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 $<sup>\</sup>times$ 2: RTD (DPt100 $\Omega$ ) type is customizable.

#### Board Type, Dual PID Control Temperature Controller [TB42 Series]

Model		TB42-14R	TB42-14S	TB42-14C	TB42-14N		
Appear	ances	c <b>AL</b> us	8888 8888				
& Dimens				COUCUS A DO		(	
		rp: 1	, , , , , , , , , , , , , , , , , , ,			İ	
_			[Controller part: W65×H78r	nmj		Į ⊦	
Powers			00-240VAC 50/60Hz				
		90 to 110% of rated voltage					
	consumption	Max. 5VA				ļ  -	
	method	7 Segment (PV: green, SV:	red) LED method			1 (	
Charac	ter size (W×H)	8.0×10.0mm				Ė	
Input	RTD		le line resistance max. 5Ω po			(	
type		K(CA), J(IC) (tolerance of ou		)		0	
Display	accuracy	F.S. ±0.5% or 3°C, select the	e higher one			S	
	Relay	250VAC 3A 1a					
Output	SSR drive	<u> </u>	Max. 12VDC ±3V 30mA	_	<u> </u>	1	
Output	Current	_		DC4-20mA (max. load 600Ω)		١	
	Transmission	_			DC4-20mA (max. load 600Ω)		
Sub	Event1	Relay output (250VAC 0.5A	1a)			S	
output	Event2	OK monitoring display by LE	:D				
Sampling period		0.5 sec					
Control	method	ON/OFF P PI	PD PIDF PIDS				
Referer	nce	H-138 to 146				1 -	

#### **Temperature/Humidity Transducer [THD Series]**

Series		THD-R-T	THD-R-PT/C	THD-R-C THD-R-V THD-R-T	THD-D THD-W	THD-DDD-D
Appearances & Dimensions	S	(room type)	(wall mountin	(duct mounting type g type) ×H85×L34.5mm]	(wall mounting	(duct mounting type) g type) (H85×L34.5mm]
Power supply —		24VDC	*П00*L04.5ППП]	[٧٧/2/	\$\text{\tiny{\text{\tiny{\tiny{\tiny{\tiny{\tiny{\tiny{\text{\tiny	
Allowable voltage range		90 to 110% of rated voltage				
Power consumption —		Max. 2.4W				
Display meth	od	_	Non-display type			7 Segment LED display
Character size	ze (W×H)	_	— 6.2×10.0mm		6.2×10.0mm	
Sensor type		Temperature sensor	Temperature/Humidity sensor			
	Temp.	Max. ±0.8°C	±1.0°C (at room temperature)			
Accuracy <sup>*1</sup>	Humidity	_	±3%RH (30 to 70%RH ±4%RH (10 to 90%RH		room temp.), Typ. ±2%RH (10 to 90%RH, at room te	
	Temp.	DPt100Ω resistance v (TCR: 3850ppm/°C)	/alue	DC4 20 A (allowable	impodence may 6000	<b>\</b>
Output	Humidity	_	DC4-20mA (allowable impedance: max. 600Ω)	-DC4-20mA (allowable impedance: max. 600Ω), 1-5VDC, RS485 communication (Modbus RTU)		
Resolution		_	1/1000			
Sampling period		_	0.5 sec			
Reference		H-147 to 153				

※1: • Room temperature is 23°C±5°C.

- It may cause degree of degradation when this unit is exposed to organic chemicals such as alcohol gas or sulfuric acid.
- It may cause degree of degradation for humidity when using this unit at high temperature/humidity environment for a long time.
- It may cause error of humidity value when this unit is exposed to high humidity environment (over 80%RH) for a long time.

(A) Photoelectric Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(F) Rotary Encoders

(G) Connectors/ Connector Cables/ Sensor Distribution Boxes/Sockets

(I) SSRs / Power Controllers

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic/ Logic Panels

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#### 5-CH Temperature Indicator [T4WM Series]

Series	T4WM		
Appearances & Dimensions	AUTO 1 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		
Power supply	110/220VAC 50/60Hz		
Allowable voltage range	90 to 110% of rated voltage		
Power consumption	Max. 3VA		
Display method	7 Segment (red) LED method		
Character size (W×H)	9.8×14.2mm		
Input type	Thermocouple: K(CA), J(IC) / RTD: DPt100Ω		
Display accuracy	F.S. ±0.5% rdg ±1-digit		
Input line resistance	Thermocouple: Max. $100\Omega$ / RTD: Allowable line resistance max. $5\Omega$ per a wire		
Connectable sensors	5 (thermocouple, RTD are not used as mixed)		
Switching CH	Selectable manual/auto		
Auto switching time	1 to 10 sec variable (includes adjuster)		
Reference	H-154 to 156		

#### 2-CH USB Temperature Data Logger [SCM-USU2I]

Model		SCM-USU2I				
Appearances & Dimensions		C € IĞ	NEW			
		[W45×H25.3×L80mm]				
Power supply		USB bus power(5VDC)				
Permissible voltage range		90 to 110% of rated voltage				
Communication method		USB				
Protocol		Modbus RTU				
Display method		Check via PC Software (DAQMaster)				
	RTD	DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nickel120Ω				
Input type	Thermocouple	K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II				
put type	Analog	Voltage: -60-60mV, 0-200mV, 0-1V, 1-5V, 0-5V, 0-10V Current: 0-20mA, 4-20mA				
	RTD	●At room temperature range (23°C±5°C): (PV ±0.3% or ±1°C, select the higher one) ±1-digit •Out of room temperature range: (PV ±0.5% or ±2°C, select the higher one) ±1-digit				
Display	Thermocouple					
accuracy*1	Analog	●At room temperature range (23°C±5°C): ±0.3% F.S. ±1-digit •Out of room temperature range: ±0.5% F.S. ±1-digit				
Sampling period		50ms (2-CH simultaneous sampling)				
Reference		H-157 to 165				

- ※1: 

   At room temperature range (23°C±5°C)
  - Below -100°C of thermocouple K, J, T, N, E, and L, U, PLII, RTD Cu50Ω, DPt50Ω
  - : (PV  $\pm 0.3\%$  or  $\pm 2^{\circ}$ C, select the higher one)  $\pm 1$ -digit
  - Below 200°C of thermocouple C, G and R, S
  - : (PV  $\pm 0.3\%$  or  $\pm 3$ °C, select the higher one)  $\pm 1$ -digit
  - Below 400°C of thermocouple B does not have accuracy standard.
  - Out of room temperature range
    - RTD Cu50Ω, DPt50Ω: (PV 0.5% or ±3°C, select the higher one) ±1-digit
    - $\bullet$  Thermocouple R, S, B, C, G, L, U: (PV  $\pm 0.5\%$  or  $\pm 5^{\circ}\text{C},$  select the higher one)  $\pm 1\text{-digit}$
    - Below -100°C of other sensors: within ±5°C

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