

PRODUCT SELECTION GUIDE

selec[®]

TEMPERATURE CONTROLLER



Temperature Controller

Cooling Controller

Humidity Controller

Solid State Relay

UNIVERSAL PID CONTROLLER & INDICATOR



Universal PID Controller

Precision PID Controller

Process Indicator

TIMERS & COUNTERS



Programmable Timer

Thumbwheel Timer

Programmable Counter

Time & Count Totaliser

PRECISION SERIES

PID Controller



Adaptive Tuning

Automatic retuning for higher control accuracy with change in environmental or load conditions

Profile Control Heat-Cool mode

0.1% of Accuracy for Control & Indication

Response Time ≤ 40 ms

Process Indicator

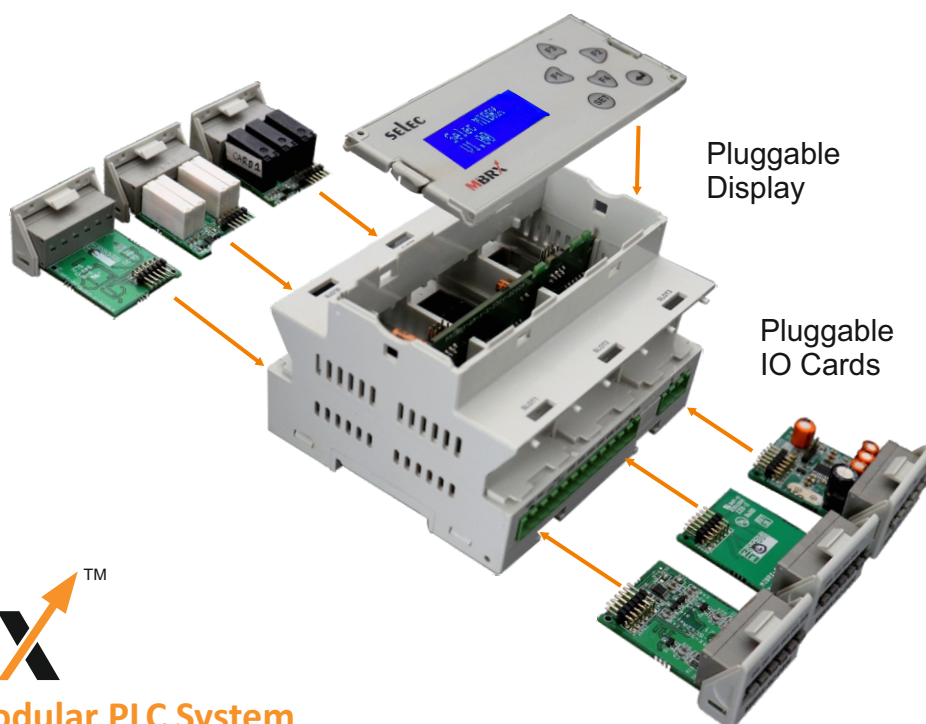


Presenting Precision Process Indicator

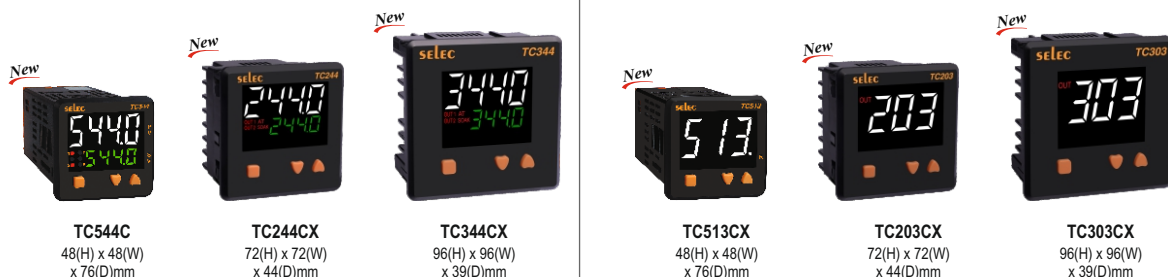
0.1% of Accuracy!

Response Time ≤ 40 ms

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Temperature Controllers (CX Series)



FEATURES	- Control output: Relay or SSR - Auxiliary output: Relay - Dwell timer, Heat cool PID	- Control output: Relay or SSR - IDM applicable
DISPLAY	4+4 digits, 7 segment LED dual (white + green) display	
INPUT TYPE	Thermocouple (J, K, T, R, S) / RTD (PT100)	
RESOLUTION	0.1/1° for TC/RTD (fixed 1° for R & S TC)	Fixed 1° resolution
ACCURACY	For TC inputs: 0.25% of F.S. $\pm 1^\circ$; For R & S inputs: 0.5% of F.S. $\pm 1^\circ$ (20 min of warm up time); For RTD input: 0.1% of F.S. $\pm 1^\circ$	
SETPOINT	Dual set point	Single set point
CONTROL MODE	Auto / Self tune PID or ON-OFF	
CONTROL OUTPUT	Relay: SPDT 5A (SPST for TC544C) resistive @250V AC / 30V DC or SSR (field selectable): 12V DC, 50mA	Relay: SPDT 10A resistive @250V AC / 30V DC or SSR: 12V DC, 50mA
AUXILIARY OUTPUT	Relay: SPDT 5A (SPST for TC544C) resistive @250V AC / 30V DC	---
SPECIAL FUNCTIONS	Heat cool PID, Dwell timer, IDM applicable	IDM applicable
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC	

Ordering information

PRODUCT CODE	OUTPUT 1		OUTPUT 2	SUPPLY VOLTAGE	CERTIFICATION
	RELAY	SSR			
TC544C	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	CE
TC244CX	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	CE
TC344CX	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	CE
TC513CX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	CE
TC203CX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	CE
TC303CX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	CE

Temperature Controllers (BX Series)



TC544B
 48(H) x 48(W) x 76(D)mm



TC513BX
 48(H) x 48(W) x 76(D)mm



TC533BX
 48(H) x 48(W) x 76(D)mm

FEATURES	- Selectable control output: Relay / SSR - Auxiliary output: Relay	- Control output: Relay / SSR - Single set point
DISPLAY	4+4 digits LED dual (red + green) display	3 digits LED single display
INPUT TYPE	Thermocouple (J, K, T, R, S) / RTD (PT100)	
RESOLUTION	0.1/1° for TC/RTD inputs (fixed 1° for R & S type TC input)	Fixed 1° resolution
ACCURACY	For TC input: 0.25% of F.S. $\pm 1^\circ$; For R & S inputs: 0.5% of F.S. $\pm 2^\circ$ (20 min of warm up time for TC inputs); For RTD input: 0.1% of F.S. $\pm 1^\circ$	
SETPOINT	Dual set point	Single set point
CONTROL MODE	Auto tune / Self tune PID or ON-OFF	
CONTROL OUTPUT	Relay: SPST: 5A resistive @250V AC / 30V DC or SSR: 12V DC, 30mA	Relay: SPDT: 10A resistive @250V AC / 30V DC or SSR: 12V DC, 50mA
AUXILIARY OUTPUT	Relay: 5A resistive @230V AC / 30V DC	---
SPECIAL FUNCTIONS	Heat cool PID, Dwell timer	---
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC	

Temperature Controllers (DTC Series)



FEATURES	- J, K, RTD input - ON-OFF / PID mode	- Selectable control output: Relay / SSR - Auxiliary output: Relay - Heat cool PID, Dwell timer
DISPLAY	3 digits, 7 segment LED single display	4+4 digits LED dual (red + green) display
INPUT TYPE	DTC503-TC, DTC231-TC, DTC331-TC: Thermocouple (J, K) DTC503-RTD, DTC231-RTD, DTC331-RTD: RTD (PT100)	Thermocouple (J, K, T, R, S) / RTD (PT100)
RESOLUTION	Fixed 1° resolution	0.1/1° for TC/ RTD inputs (fixed 1° for R & S type TC input)
ACCURACY	0.25% of F.S. $\pm 1^\circ$ (20 min warm up time)	For TC input: 0.25% of F.S. $\pm 1^\circ$; For R & S inputs: 0.5% of F.S. $\pm 1^\circ$ (20 min of warm up time for TC inputs); For RTD input: 0.1% of F.S. $\pm 1^\circ$
SETPOINT	Single set point	Dual set point
CONTROL MODE	ON-OFF / Auto-tune PID	ON-OFF / Auto-tune PID
CONTROL OUTPUT	Relay: 10A @250V AC / 24V DC or SSR: 12V DC, 30mA	Relay: 5A resistive @250V AC / 24V DC or SSR: 12V DC, 30mA
AUXILIARY OUTPUT	---	Relay: 5A resistive @250V AC / 24V DC
SUPPLY VOLTAGE (AC: 50 / 60 Hz)	90 to 270V AC/DC	

Ordering information

PRODUCT CODE	OUTPUT 1		OUTPUT 2	SUPPLY VOLTAGE	CERTIFICATION
	RELAY	SSR			
TC544B	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	---
TC513BX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---
TC533BX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---
TC544A	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	---
TC544A-24V	RELAY (5A)	SSR (12V DC)	RELAY (5A)	24V DC	CE
TC544A-CU	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	CE, RoHS
TC244AX	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	---
TC344AX	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC	---
TC513AX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---
TC513AX-CU	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	CE, RoHS
TC513AX-24V	RELAY (10A)	SSR (12V DC)	---	24V DC	CE
TC203AX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---
TC303AX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---
TC303A	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---
TC533AX	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC	---

PRODUCT CODE	OUTPUT 1		OUTPUT 2	SUPPLY VOLTAGE
	RELAY	SSR		
DTC503-TC	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC
DTC503-RTD	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC
DTC231-TC	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC
DTC231-RTD	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC
DTC331-TC	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC
DTC331-RTD	RELAY (10A)	SSR (12V DC)	---	90 to 270V AC/DC
DTC524	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC
DTC224	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC
DTC324	RELAY (5A)	SSR (12V DC)	RELAY (5A)	90 to 270V AC/DC

New



PID535-P
48(H) x 48(W) x 84(D)mm

FEATURES	0.1% Accuracy 40 msec response time - Universal input, Universal output 10 level bar graph display output 24V DC inbuilt sensor supply - Profile controller up to 160 steps - Adaptive tune PID control
DISPLAY	4+4 digits, 7 segment LED dual display
INPUT TYPE	Thermocouple: J, K, T, R, S, C, E, B, N, L, U, W, Platinel II, RTD: PT100, PT1000, Signal input: -5 to 90mV, 0 to 5 / 10V DC, 0 to 0/4 to 20mA DC
RESOLUTION	1/0.1° for TC/RTD; 1/0.1/0.01/0.001 for analog input
ACCURACY	For TC input: 0.1% of span at 25 °C; For R & S input: 0.25% of span at 25 °C; For RTD: 0.1% at 25 °C; For current: 0.1% at 25 °C; For voltage: 0.1% at 25 °C
SET POINT	3 set point
CONTROL MODE	Auto tune / Adaptive tune / Self tune PID control, ON-OFF control
SENSOR SUPPLY	24V DC, 30mA
CONTROL OUTPUT	Relay: 5A @250V AC or 30V DC, SSR: 18V DC, Current: 0/4 to 20mA DC, Voltage: 0/5 to 10V DC
AUXILIARY OUTPUT	Relay: 5A @250V AC or 30V DC
OPTIONAL FEATURES	Retransmission analog output, RS485 MODBUS RTU protocol, Profile controller 160 ramp-soak steps (10 profiles, 16 steps each), IDM
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC

Precision Process Indicators

New



PIC153-P-C-1
48(H) x 96(W) x 76(D)mm

New



PIC352
96(H) x 96(W) x 76(D)mm

FEATURES	0.1% indication accuracy 40 msec response time - Universal input - Retransmission output 2 digital inputs - Inbuilt 24V DC sensor supply	0.1% indication accuracy 40 msec response time - Dual LCD display with graphical representation - Multi color backlight indication - Inbuilt 24V DC sensor supply - Universal input retransmission analog output 4 Digital inputs
DISPLAY	5 digits, 7 segment LED, Single white / Red display	4+4 digits, 7 segment LCD dual display
INPUT TYPE	Thermocouple: J, K, T, R, S, C, E, B, N, L, U, W, Platinel II, RTD: PT100, PT1000, Signal inputs: -90 to 90mV, -10 to 10V DC, -20 to 20mA DC, 2 DI's	Thermocouple: J, K, T, R, S, C, E, B, N, L, U, W, Platinel II, RTD: PT100, PT1000, Signal input: -5 to 90mV, 0 to 5 / 10V DC, 0/4 to 20mA DC, Digital input: 4
RESOLUTION	For TC/RTD: 1/0.1° For analog input: 1/0.1/0.01/0.001/0.0001	1/0.1° for TC/RTD; 1/0.1/0.01/0.001 for analog input
ACCURACY	TC input: 0.1% of span at 25 °C, R & S Input: 0.25% of span at 25 °C, RTD input: 0.1% at 25 °C, Voltage: 0.1% at 25 °C, Current: 0.1% at 25 °C	
OUTPUT	2 x Relay: 10A @250V AC or 28V DC	
SPECIAL FEATURES	Retransmission analog output: 0/4 to 20mA DC, 0 to 5V DC, 0 to 5 / 10V DC, RS485 MODBUS RTU protocol	
SENSOR SUPPLY	24V DC, 100mA (output to power the sensor)	
SUPPLY VOLTAGE (AC : 50 / 60)	90 to 270V AC/DC	90 to 270V AC/DC



PID500-U
48(H) x 48(W) x 84(D)mm



PID110-U
96(H) x 48(W) x 90(D)mm



PID330-U
96(H) x 96(W) x 90(D)mm

FEATURES	- Universal input, Universal output - Profile controller up to 128 steps - Adaptive tune PID control - RS485 MODBUS RTU protocol - IDM applicable - Inbuild sensor supply (PID110U & PID330U)
DISPLAY	4+4 digits, 7 segment LED dual display
INPUT TYPE	Thermocouple: J, K, T, R, S, C, E, B, N, L, U, W, Platinel II, RTD: PT100 signal inputs (DC): -5 to 56mV, 0 to 5/10 V DC, 0/4 to 20mA DC
RESOLUTION	TC/RTD: 1/0.1 analog input: 1/0.1/0.01/0.001
ACCURACY	For TC input: 0.25% of F.S. $\pm 1^\circ$; For R & S inputs: 0.5% of F.S. $\pm 2^\circ$ (20 min of warm up time); For RTD input: 0.1% of F.S. $\pm 1^\circ$; Signal input: $\pm 0.5\%$, ± 1 digit
SET POINT	3 set point
CONTROL MODE	Auto tune / Adaptive tune / Self tune PID control, ON-OFF control
SENSOR SUPPLY	24VDC, 30mA (For PID110-U & PID330-U)
CONTROL OUTPUT	Relay: 7A @250V AC or 28V DC, SSR: 15V DC, Current: 4 to 20mA DC (max load 500E), Voltage: 0 to 10V DC (min load 10K Ω)
AUXILIARY OUTPUT	Relay 1: 7A @250V AC or 28V DC, Relay 2: 10A @250V AC or 28V DC
OPTIONAL FEATURES	Retransmission analog output, RS485 MODBUS RTU protocol, Profile cotrollor (8 profiles, 16 steps each) IDM applicable
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC, 24V AC/DC (PID500U)

Independent Downloader Module



IDM

- Easy programming
- Compact size
- LED indication

RATED SUPPLY VOLTAGE	1.8V DC to 5.5V DC
UPLOADING TIME	1 sec
DOWNLOADING TIME	1 sec

Ordering information

PRODUCT CODE	OUTPUT 1	OUTPUT 2	OUTPUT 3	SENSOR SUPPLY	COMM. (RS485)	SUPPLY VOLTAGE	CERTIFICATION
PID535-P-C-1	UNIVERSAL	RELAY	RELAY (optional)	24V DC, 30mA	YES	90 to 270V AC/DC	CE

PRODUCT CODE	RETRANSMISSION	COMM. (RS485)	SUPPLY VOLTAGE	CERTIFICATION
PIC153-P-C-1	YES	YES	90 to 270V AC/DC	CE
PIC352-11-U-0-1	YES	---	90 to 270V AC/DC	CE

PRODUCT CODE	OUTPUT 1	OUTPUT 2	OUTPUT 3	SENSOR SUPPLY	COMM. (RS485)	SUPPLY VOLTAGE	CERTIFICATION
PID500-U-C-1	UNIVERSAL	RELAY (7A)	RELAY (10A)	---	YES	90 to 270V AC/DC	CE
PID500-U-0-1	UNIVERSAL	RELAY (7A)	RELAY (10A)	---	---	90 to 270V AC/DC	CE
PID500-U-C-2	UNIVERSAL	RELAY (7A)	RELAY (10A)	---	YES	24V AC/DC	CE
PID500-U-0-2	UNIVERSAL	RELAY (7A)	RELAY (10A)	---	---	24V AC/DC	CE
PID110-U-C-1	UNIVERSAL	RELAY (7A)	RELAY (10A)	24V DC, 30mA	YES	90 to 270V AC/DC	CE
PID110-U-0-1	UNIVERSAL	RELAY (7A)	RELAY (10A)	24V DC, 30mA	---	90 to 270V AC/DC	CE
PID330-U-C-1	UNIVERSAL	RELAY (7A)	RELAY (10A)	24V DC, 30mA	YES	90 to 270V AC/DC	CE
PID330-U-0-1	UNIVERSAL	RELAY (7A)	RELAY (10A)	24V DC, 30mA	---	90 to 270V AC/DC	CE
IDM	---	---	---	---	---	---	---



PIC152A-VI
48(H) x 96(W) x 76(D)mm



PIC101N
48(H) x 96(W) x 76(D)mm



PIC111A-VI
48(H) x 96(W) x 76(D)mm



PIC101B-VI
48(H) x 96(W) x 27(D)mm

FEATURES	• User programmable universal input • Retransmission output • 2 alarm indication • Inbuilt 24V DC sensor supply • RS485 MODBUS RTU protocol	• User programmable universal input • Scalable Voltage / Current input • Inbuilt 24V DC sensor supply	• 4 digits single display • Programmable Voltage / Current input	
DISPLAY	4 digits, 7 segment LED single display			
INPUT TYPE	Thermocouple: J, K, T, R, S, RTD: PT100 Signal inputs (DC): -5 to 56mV, 0 to 10V, 0/4 to 20mA		Signal inputs (DC): 0 to 10V, 0/4 TO 20mA	
RESOLUTION	TC/RTD: 1/0.1, Analog input: 1/0.1/0.01/0.001		Decimal point position selectable: 1/0.1/0.01/0.001	
ACCURACY	For TC inputs: 0.25% of F.S. ±1°; For R & S inputs: 0.5% of F.S. ±2° (20 min of warm up time); For RTD input: 0.1% of F.S. ±1°; Cold junction accuracy ± 5 °C; Signal input: ±0.5% of F.S, ±1 digit		Signal input: ±0.5% of F.S. ±1 digit	
OUTPUT	2 x Relay: SPDT: 5A @250V AC / 24V DC	---	1 Relay: SPDT: 3A @250V AC or 24V DC	---
SENSOR SUPPLY	24V DC, 30mA (output to power the sensor)			---
SUPPLY VOLTAGE (AC : 50 / 60)	90 to 270V AC/DC, 24V DC (optional)	90 to 270V AC/DC, 24V DC (optional)	90 to 270V AC/DC & 24V DC (PIC101B-VI)	

Ordering information

PRODUCT CODE	OUTPUT 1	OUTPUT 2	OUTPUT 3	COMM. (RS485)	SUPPLY VOLTAGE
PID500-T-0-0-01	RELAY (5A)	RELAY (5A)	RELAY (5A)		90 to 270V AC/DC
PID500-T-1-0-01	SSR (12V DC)	RELAY (5A)	RELAY (5A)	---	90 to 270V AC/DC
PID500-T-2-0-01	4-20mA	RELAY (5A)	RELAY (5A)	---	90 to 270V AC/DC
PID500-2-0-04	4-20mA	RELAY (5A)	RELAY (5A)	YES	90 to 270V AC/DC
PID500-3-0-00	0 - 10V	RELAY (5A)	---	---	90 to 270V AC/DC
PID500-0-0-01	RELAY (5A)	RELAY (5A)	RELAY (5A)		90 to 270V AC/DC
PID500-0-0-04	RELAY (5A)	RELAY (5A)	RELAY (5A)	YES	90 to 270V AC/DC
PID500-2-0-01	4-20mA	RELAY (5A)	RELAY (5A)	---	90 to 270V AC/DC
PID500-1-0-00	SSR (12V DC)	RELAY (5A)	---	---	90 to 270V AC/DC
PID330-2-0-04	4-20mA	RELAY (5A)	RELAY (5A)	YES	90 to 270V AC/DC
PID330-0-0-01	RELAY (5A)	RELAY (5A)	RELAY (5A)	---	90 to 270V AC/DC
PID110-0-0-01	RELAY (5A)	RELAY (5A)	RELAY (5A)	---	90 to 270V AC/DC
PID528-1	RELAY (5A)	RELAY (5A)	---	---	90 to 270V AC/DC

PRODUCT CODE	RETRANSMISSION	COMM. (RS485)	SUPPLY VOLTAGE	CERTIFICATION
PIC152A-VI	YES	---	90 to 270V AC/DC	---
PIC152A-VI-C-24V	YES	YES	24V DC	---

PRODUCT CODE	INPUT TYPE	SUPPLY VOLTAGE	CERTIFICATION
PIC101-N	UNIVERSAL	90 to 270V AC/DC	CE
PIC101N-24V	UNIVERSAL	24V DC	CE
PIC101B-VI	VOLTAGE / CURRENT	90 to 270V AC/DC	CE
PIC101B-VI-24V	VOLTAGE / CURRENT	24V DC	CE
PIC111A-VI	VOLTAGE / CURRENT	90 to 270V AC/DC	---
PIC101A-T-230	TC / RTD	230V AC	---
PIC101A-VI-230	VOLTAGE / CURRENT	230V AC	---
PIC501A-VI-230	VOLTAGE / CURRENT	90 to 270V AC/DC	---

Multi-Channel Products



TC02
90(H) x 35(W) x 60(D)mm



LC02
72(H) x 72(W) x 71.35(D)mm



TC08
96(H) x 63(W) x 99.1(D)mm

FEATURES	- Rail mount - RTD (PT100) input - ON-OFF control - PID with auto tuning - Rampsoak	- Loadcell input (24 bit) - High accuracy load sensing - Hysteresis / PIDT control - Realtime loadcell calibration - Selectable excitation voltage - Retransmission	- RTD Input (PT100) - ON-OFF control - PID with auto tuning - Heat cool PID - RS485 communication
DISPLAY TYPE	4 digit 7 segment LED	LED display (6 digit white + 4 digit green)	4 line x 16 characters
NO. OF KEYS	3 keys	4 touch key (3 user configurable)	8 touch keys (6 user configuration)
INPUTS	2 channel RTD (PT100)	2 channel load cell	8 channel RTD (PT100)
ANALOG RESOLUTION	12 bit	24 bit, differential	12 bit
ANALOG OUTPUT	---	1 channel (4-20mA)	---
DIGITAL O/P	4 relay output	3 relay output	8 relay output
COMMUNICATION INTERFACE	RS485 MODBUS RTU-Slave		
SUPPLY VOLTAGE	18-30V DC, 4W	90 to 270V AC (50/60 Hz), 6VA	90 to 270V AC (50/60 Hz), 10VA

Ordering information

PRODUCT CODE	DESCRIPTION	CERTIFICATION
TC02	2 channel temperature controller, 24V DC	CE
LC02	2 channel loadcell controller with retransmission, 230V AC	CE

PRODUCT CODE	DESCRIPTION	CERTIFICATION
TC08	2 channel temperature scanner cum controller, 230V AC	CE

Cooling Controllers



CH403B
36(H) x 72(W) x 65.3(D)mm



CH403C
36(H) x 72(W) x 65.3(D)mm

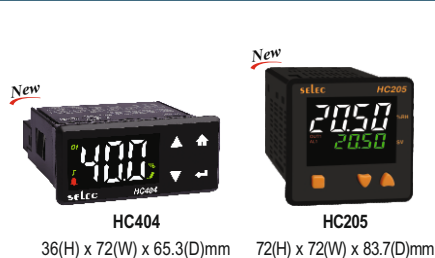


CH403C-4-NTC
36(H) x 72(W) x 65.3(D)mm

FEATURES	- NTC input - Restart time delay - Auto / Manual defrost selection - IDM applicable - Cyclic timer (optional)	- NTC input - Capacitive touch keypad - Defrost management - Cyclic timer (optional)	2 x NTC sensor probe - Defrost management - Door open alarm delay - Heating, Cooling & Evaporation
DISPLAY	2½ digits, 7 segment LED display	3 digits, 7 segment LED display	
INPUT TYPE	NTC type sensor		2 x NTC type sensor
RESOLUTION	1/0.1°		
ACCURACY	±1% of F.S.		
SETPOINT	Single set point		Dual set point
CONTROL MODE	ON-OFF control		
CONTROL OUTPUT	SPDT: 10A @250V AC / 30V DC or SPST / LUG type: 20A @250V AC / 30V DC (depends on product code selection)	SPDT: 10A @ 250V AC / 30V DC or SPST/ LUG type: 20A @250V AC / 30V DC (depends on product code selection)	Defrost: SPST 7A @250V AC / 30V DC Fan: SPST 7A @250V AC / 30V DC Compressor: SPDT 10A @250V AC / 30V DC
AUXILIARY OUTPUT	Relay: SPST: 5A @250V AC / 30V DC (depends on product code selection)	SSR: 12V DC, 10mA or Relay: SPST: 5A @250V AC / 30V DC (depends on product code selection)	---
HYSTERESIS	0.1 to 9.9°		1 to 20°
DISPLAY OFFSET	-19.9° to 19.9°	-19.9° to 20.0°	-10 to 10°
RESTART TIME DELAY	Adjustable from 0 to 19.9 min	Adjustable from 0 to 99 min	
RELAY ACTION	Heat & Cool mode		Heating, Cooling & Evaporation
DEFROST TIME	Programmable from 0 to 99 min		
DEFROST FREQUENCY	Programmable from 0 to 99 (hr/min/sec)		Programmable from 1 to 31 (hr/min/sec)
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	230V AC		90 to 270V AC/DC

Humidity Controllers

Humidity + Temperature Controllers



FEATURES	• RH sensor input • ON-OFF control • Relay control output • Alarm relay output	• RH + RTD sensor input • ON-OFF control • Control & Alarm relay output • RS485 Modbus communication (HTC307)
INPUT TYPE	RH sensor input for humidity	RH sensor input for humidity, RTD: PT100 sensor input for temperature
RESOLUTION	0/0.1	
ACCURACY	Humidity: $\pm 3\%$ for RH 10% to 80%, $\pm 4\%$ for below 10% & above 80%.	Humidity: $\pm 3\%$ for RH 10% to 80%, $\pm 4\%$ for below 10% & above 80%. RTD: $\pm 0.1\%$ of span (20 min of warm up time)
SET POINT	1	HTC405 / HTC206: 2 HTC307: 4
CONTROL MODE	ON-OFF control	For temperature: Auto tune, Self tune, Adaptive tune PID. For humidity: Proportional control (HTC307), ON-OFF control
CONTROL OUTPUT	10A @250V AC or 24V DC SPDT relay output	HTC206: For humidity / Temperature: 2 X 10A @250V AC / 30V DC SPDT relay HTC307: For humidity / Temperature: 2 X 10A @250V AC / 28V DC SPST relay HTC405: For humidity / Temperature: 2 X 7A @250V AC / 30V DC SPST relay
AUXILIARY OUTPUT	HC404: 5A @250V AC or 24V DC SPDT relay output HC205: 10A @250V AC or 24V DC SPDT relay output	HTC307: 2 X 5A SPST relay @250V AC or 24V DC
OPTIONAL FEATURES	Load protection protocol, Low / High alarm, RS485 MODBUS RTU protocol (for HTC307)	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC	

Humidity Sensor



INPUT VOLTAGE	5V DC
OUTPUT VOLTAGE	0.5V DC to 4.5V DC
HUMIDITY RANGE	0-100%
SENSOR TEMPERATURE	Operating: -20 to 100 °C Storage: -40 to 120 °C

Ordering information

PRODUCT CODE	OUTPUT		SUPPLY VOLTAGE	CERTIFICATION
	CONTROL OUTPUT	ALARM OUTPUT		
CH403B-1-NTC	RELAY (10A)	---	230V AC	---
CH403B-2-NTC	RELAY (20A LUG type)	---	230V AC	---
CH403B-3-NTC	RELAY (20A)	RELAY (5A)	230V AC	---
CH403C-1-NTC V2	RELAY (10A)	SSR (12V)	230V AC	CE
CH403C-2-NTC	RELAY (20A LUG type)	---	230V AC	CE
CH403C-3-NTC	RELAY (10A)	RELAY (5A)	230V AC	CE

PRODUCT CODE	OUTPUT 1	OUTPUT 2	OUTPUT 3	SUPPLY VOLTAGE	CERTIFICATION
CH403C-4-NTC	RELAY (7A)	RELAY (7A)	RELAY (10A)	90 to 270V AC/DC	CE

PRODUCT CODE	INPUT	CONTROL OUTPUT		AUXILIARY OUTPUT	SUPPLY VOLTAGE	CERTIFICATION
		OUTPUT 1	OUTPUT 2			
HC404	RH	RELAY (10A)	---	RELAY (5A)	90 to 270V AC/DC	CE
HC205	RH	RELAY (10A)	---	RELAY (10A)	90 to 270V AC/DC	CE
HTC405	RH + RTD	RELAY (7A)	RELAY (7A)	---	90 to 270V AC/DC	CE
HTC206	RH + RTD	RELAY (10A) / SSR (12V)	RELAY (10A)	---	90 to 270V AC/DC	CE
HTC307	RH + RTD	RELAY (10A)	RELAY (10A)	2 x RELAY (5A)	90 to 270V AC/DC	CE
HS-A-100	---	0.5 TO 4.5V DC	---	---	5V DC	CE



XTC562
48(H) x 48(W) x 69(D)mm



XTC262
72(H) x 72(W) x 83.7(D)mm

FEATURES	• 6 digits dual display • Unidirectional, Bi-directional, Quadrature counting modes • User configurable Timer / Counter / Rate / Batch / RPM
DISPLAY	6+6 digits, 7 segment LED dual (white + orange) display
MODES	Timer: ON delay, Interval, Cyclic ON first, Cyclic OFF first, Instantaneous + Delayed at start pulse, Instantaneous + Delayed at power on, Motor reverse, Batch. Counter: ON delay, Interval, Time pulse repeat, Auto reset, Batch Rate: HA / LA / BAND
RANGES	Total: Least count, 0.0001 0.001, 0.01, 0.1, 1 Timer: 9999.99/99999.9/999999 sec, 9999.59 min: sec / 99999.9 min 999999 min / 9999.59 hr: min 99999.9/999999 hr
RESET	Front, Remote, Power interruption
MEMORY RETENTION	Yes
DIRECTION	Up / Down
SET POINT	Dual set point
INPUT SPEED	a) 10Hz b) 15kHz
SENSOR SUPPLY	Inbuilt, 12V DC @30mA
SCALE FACTOR	Programmable from 0.00001 to 9.99999 x 10 ⁿ where n = -5, -4, -3, -2, -1, 0, 1, 2
OUTPUT CONTACT	2 (1 SPST relay & 1 SPDT relay)
CONTACT RATING	5A @250V AC / 30V DC
INPUT	NPN/PNP sensor, Potential free contact, Encoder
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC

Ordering information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XTC562	90 to 270V AC/DC	CE
XTC262	90 to 270V AC/DC	CE

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XTC5400	90 to 270V AC/DC	CE
XTC5400-CU	90 to 270V AC/DC	CE cULus
XTC5400-24	24V DC	---

Count Totaliser

Time Totaliser



XC410C
36(H) x 72(W) x 67.5(D)mm



XC410B
36(H) x 72(W) x 67.5(D)mm



XC10
48(H) x 96(W) x 30(D)mm



TT412B
36(H) x 72(W) x 67.5(D)mm

FEATURES	• Count totaliser • Inbuilt sensor supply	• Count / Rate / RPM indicator • Inbuilt sensor supply	• Selectable least count • Inbuilt sensor supply • Universal power supply
DISPLAY	6 digit 7 segment LED Display		
RANGES	999999 counts	Counter: 999999, Rate: Auto ranging (4.00 to 9999 RPM)	a) 99999.9 sec, b) 999999 sec c) 99999.9 min, d) 999999 min e) 99999.9 hrs, f) 999999 hrs
RESET	Front panel reset, Terminal reset		
MEMORY	Yes		
DIRECTION	Up		
SET POINT	---		
INPUT SPEED	20Hz, 5kHz (selectable via DIP switch)	20Hz, 5kHz	3Hz, 5kHz (selectable via DIP switch)
SENSOR SUPPLY	12V DC @30mA		
INPUT	NPN, PNP sensor, Potential free contacts		
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC		



XTC4102
36(H) x 72(W) x 74.5(D)mm



LTC9A
24(H) x 48(W) x 48(D)mm

FEATURES	- LED count / Time totalizer - Inbuilt sensor supply	- LCD Count / Time totalizer - Contact / Voltage input selectable 8 years battery life
DISPLAY	6 digits white LED display	7 ^{1/2} digits LCD display
MODES	Timer / Counter	
RANGES	Counter: 999999 counts, Timer: 99999.9 sec, 999999 sec, 99999.9 min, 999999 min, 99999.9 hrs, 999999 hrs	Hour meter: a) 1999.59.99 hr: min: sec; b) 199999.99hr, Counter: 19999999 counts
RESET	Counter-Front key, Timer-Terminal	Front, Remote
MEMORY	Yes	
DIRECTION	Up	
INPUT SPEED	20Hz, 5kHz	14Hz, 100Hz (selectable via jumper)
SENSOR SUPPLY	Inbuilt 12V DC @30mA	---
INPUT	Counter: 5 to 30V DC from proximity switches, Encoders, Potential free contacts, Limit switches etc. Timer: Potential free contact	a) 24 to 260V AC/DC b) Contact input
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC or 12 to 24V DC (non isolated)	Battery powered

Thumbwheel Timers (A Series)

Programmable Timers (A Series)



XT56A
48(H) x 48(W)
x 76(D)mm

XT264A
72(H) x 72(W)
x 83.7(D)mm

XT364A
96(H) x 96(W)
x 73(D)mm



XT546A
48(H) x 48(W)
x 76(D)mm

XT246A
72(H) x 72(W)
x 44(D)mm

XT346A
96(H) x 96(W)
x 39(D)mm



XT543A
48(H) x 48(W) x 76(D)mm

FEATURES	• Thumbwheel setting • 7 time ranges	• Multi function (4 functions) • 9 time ranges	
DISPLAY	3 digits, 7 segment LED white display	3+3 digits, 7 segment LED dual (white + green) display	3 digits, 7 segment LED white display
SET POINT	Single set point		
MODES	ON delay / Interval	ON delay, Interval, Cyclic ON first, Cyclic OFF first	ON delay / Interval / Cyclic ON first / Cyclic OFF first
TIME RANGES	9.99/99.9/999 sec, 99.9/999 min, 99.9/999 hr (7 time range)	9.99/99.9/999 sec, 9.59 min: sec, 99.9/999 min, 9.59 hr: min, 99.9/999 hr (9 time range)	9.99/99.9/999 sec 9.59 min: sec, 99.9/999 min, 9.59 hr: min, 99.9/999 hr (9 time range)
RESOLUTION	0.01 sec		
TIME SETTING	Thumbwheel	Front keypad	
RESET / START INPUT	Pulse start	Gate / Pulse start (programmable)	
	Front panel, Terminal reset, On power interruption		
ACCURACY	± 0.05% of set time or 50 msec (whichever is greater), Repeat: ±0.05%		
COUNT DIRECTION	DOWN	DOWN / UP	
OUTPUT CONTACT	2 C/O SPDT		
CONTACT RATING	5A @250V AC / 24V DC		
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC		

Ordering information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XC410C	90 to 270V AC/DC	CE
XC410B	90 to 270V AC/DC	---
TT412B	90 to 270V AC/DC	---

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XC10	90 to 270V AC/DC	CE
XC10D	90 to 270V AC/DC	---

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XTC4102-CE	90 to 270V AC/DC	CE

PRODUCT CODE	INPUT TYPE	CERTIFICATION
	CONTACT / VOLTAGE	
LTC9A	YES	CE

Thumbwheel Timers (DXT Series)

Programmable Timers (DXT Series)



DXT53
48(H) x 48(W) x 76(D)mm



DXT23
72(H) x 72(W) x 83.7(D)mm



DXT541
48(H) x 48(W) x 76(D)mm



DXT241
72(H) x 72(W) x 44(D)mm

FEATURES	- Thumbwheel setting 7 time ranges	- Multi function (4 functions) 9 time ranges
DISPLAY	3 digits, 7 segment LED red display	3+3 digits, 7 segment LED dual (red + green) display
SET POINT	Single set point	
MODES	ON delay / Interval	ON delay, Interval, Cyclic ON first, Cyclic OFF first
TIME RANGES	9.99/99.9/999 sec, 99.9/999 min, 99.9/999 hr (7 time range)	9.99/99.9/999 sec, 9.59 min: sec, 99.9/999 min, 9.59 hr: min, 99.9/999 hr (9 time range)
RESOLUTION	0.01 sec	
TIME SETTING	Thumbwheel	Front keypad
RESET / START INPUT	Pulse start	Gate / Pulse start (programmable)
ACCURACY	Front panel, Terminal reset, On power interruption $\pm 0.05\%$ of set time or 50 msec (whichever is greater), Repeat: $\pm 0.05\%$	
COUNT DIRECTION	DOWN	DOWN / UP
OUTPUT CONTACT	2 C/O SPDT	
CONTACT RATING	5A @250V AC / 24V DC	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC	

Ordering information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XT56A	90 to 270V AC/DC	CE
XT264A	90 to 270V AC/DC	CE
XT364A	90 to 270V AC/DC	CE
XT546A	90 to 270V AC/DC	CE
XT246A	90 to 270V AC / DC	CE
XT346A	90 to 270V AC/DC	CE
XT543A	90 to 270V AC/DC	CE
XT543-N	90 to 270V AC/DC	---
XT56-N	90 to 270V AC/DC	---
XT56-N-24	24V DC	---
XT264-3	90 to 270V AC/DC	---
XT364-3	90 to 270V AC/DC	---
XT546	90 to 270V AC/DC	---

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XT546-24V	24V DC	---
XT246	90 TO 270V AC/DC	---
XT246-24V	24V DC	---
XT346	90 to 270V AC/DC	---
XT546BX	90 to 270V AC/DC	---
XT5042-24	24V DC	---
XT5042	90 TO 270V AC/DC	---
XT5042-CU	90 to 270V AC/DC	CE, RoHS
DXT53	90 to 270V AC/DC	---
DXT23	90 to 270V AC/DC	---
DXT541	90 to 270V AC/DC	---
DXT241	90 to 270V AC/DC	---



XC22B V2
72(H) x 72(W) x 115(D)mm



XC1200
48(H) x 96(W) x 88(D)mm



XC2200
72(H) x 72(W) x 78(D)mm

FEATURES	• Thubwheel setting • Memory retention • Auto reset	• Counter with rate indicator • Programable input scaling • Up, Down, Quadrature & Bi-directional modes	• Counter with rate indicator • Batch counter • Up, Down, Quadrature & Bi-directional modes
DISPLAY	4 digits LED display	6 digits LED display	6+4 digits LED dual (red + green) display
MODES	ON delay / Interval / Auto reset	ON delay / Interval / Auto reset / Time pulse repeat	
RANGES	9999 counts	Selectable least count: 0.0001, 0.001, 0.01, 0.1 & 1, Rate: 4.00 to 99999 RPM / RPH	
RESET	Front, Remote, Auto (optional)	Front (user selectable), Remote	Front, Remote, Power interruption
MEMORY	Yes (optional)	Yes	
DIRECTION	Up	Up, Down, Bi-directional, Quadrature	
SET POINT	Single set point	Dual set point	
INPUT SPEED	30Hz, 5kHz (selectable via dip switch)	30Hz, 2.5kHz, 5kHz (programmable)	30Hz, 5kHz (programmable)
SCALE FACTOR	---	0.00001 to 9.99999 x 10 ⁿ ,n = -5, -4, -3, -2, -1, 0, 1, 2	
SENSOR SUPPLY	Inbuilt, 12V DC @30mA		
OUTPUT CONTACT	2 C/O SPDT		
CONTACT RATING	5A @250V AC or 24V DC	5A @250V AC or 24V DC	
INPUT	NPN/PNP sensor, Potential free contact, Encoder		
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC/DC		

Ordering information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XC22B V2	90 to 270V AC/DC	---
XC1200	90 to 270V AC/DC	CE

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XC2200	90 to 270V AC/DC	---
XC2200-CE	90 to 270V AC/DC	CE

DC to AC-SSR

AC to AC-SSR



58(H) x 45(W)
x 27.3(D)mm



58(H) x 46.75(W)
x 41(D)mm



58(H) x 45(W)
x 27.3(D)mm

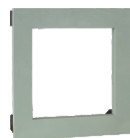
FEATURES	• Resistive output load • Zero cross switching	• Resistive + Inductive load • Zero cross switching	• Resistive output load • Zero cross switching
CONTROL INPUT VOLTAGE	4 to 32V DC		90 to 380V AC
LOAD OUTPUT VOLTAGE	24 to 330V AC / 48 to 480V AC	48 to 480V AC	24 to 330V AC / 48 to 480V AC
MAX LOAD CURRENT	25A / 40A	90A / 125A	25A / 40A
CONTACT CONFIGURATION	1 NO		
LOAD TYPE	Resistive load	Resistive + Inductive load	Resistive load
OUTPUT DEVICE	TRIAC	SCR	TRIAC



ADAPTER PLATES-72 x 48



ADAPTER PLATES-96 x 48



ADAPTER PLATES-96 x 72



ADAPTER PLATES-48 x 24



SNUBBER

DESCRIPTION

To assemble 48 x 48mm size product in to 72 x 72mm panel cutout

To assemble 48 x 48mm size product in to 96 x 96mm panel cutout

To assemble 72 x 72mm size product in to 96 x 96mm panel cutout

To assemble 24 x 48mm size product in to 60 x 50mm panel cutout

To increase internal relay protection of the product (RC circuit)

Ordering information

PRODUCT CODE	CURRENT RATINGS	CONTROL INPUT VOLTAGE	LOAD OUTPUT VOLTAGE	CERTIFICATION
RSS-TD1A125ZP	25	4 to 32V DC	24 to 330V AC	CE
RSS-TD1A140ZP	40	4 to 32V DC	24 to 330V AC	CE
RSS-TD1A225ZP	25	4 to 32V DC	48 to 480V AC	CE
RSS-TD1A240ZP	40	4 to 32V DC	48 to 480V AC	CE
RSS-TA1A125ZP	25	90 to 280V AC	24 to 330V AC	CE
RSS-TA1A140ZP	40	90 to 280V AC	24 to 330V AC	CE
RSS-TA1A225ZP	25	90 to 280V AC	48 to 480V AC	CE
RSS-TA1A240ZP	40	90 to 280V AC	48 to 480V AC	CE
RSS-SD1A290ZPL	90	4 to 32V DC	48 to 480V AC	CE
RSS-SD1A2125ZPL	125	4 to 32V DC	48 to 480V AC	CE

PRODUCT CODE	PRODUCT SIZE	INTERNAL CUTOUT SIZE
ADAPTER PLATES 72x48 (FG)	72 x 72mm	48 x 48mm
ADAPTER PLATES 96x48 (FG)	96 x 96mm	48 x 48mm
ADAPTER PLATES 96x72 (FG)	96 x 96mm	72 x 72mm
ADAPTER PLATES 48x24 (FG)	60 x 50mm	24 x 48mm
SNUBBER	---	---

OUR FACILITIES



- 9 Facilities in Mahape, Navi Mumbai, India
- Spread over 1.70 Lakhs sq. ft.

MANUFACTURING



- Capacity: 4 Million Products per Year
- 14 SMT Lines
- 27 Injection Moulding Machines
- Assembly & Automated Testing
- 5 Wave Soldering Lines
- 25 Million Plastic Parts per Year

NETWORK

75+ Country presence	280+ Channel partners worldwide	1000+ Employee strength
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CERTIFICATIONS



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