

Model and Suffix Code

Quality Parts

ORDER PROCEDURE : MAIN UNIT → CONTROL UNIT → DIO / DO UNIT

TLC MAIN UNIT Model and Order Code

NAME	1	2	-	3	4
TLC990M [®]	■	■			
TLC880M	■	■		■	■

TLC MAIN UNIT Order Example

ORDER CODE : TLC990ME - 83

8 : RS485 COM1 & COM2 Communication Interface
3 : RS232C COM3 Communication Interface

NO	NAME	SIGN	CONTENT
1	Communication Interface (COM1 & COM2)	8	RS485
		2	RS422A
2	Communication Interface (COM3)	3	RS232C
		8	RS485
		A	DI 4 Points & DO 4 Points (Dependent Common)
3	DI & DO (Option)	B	Dependent 2 Common DO 8 Points
		C	Dependent 2 Common DI 8 Points
		R	Relay
4	DO Type (Option)	R	Relay
		O	Open Collector

TLC CONTROL UNIT Model and Order Code (TLC990 : one CU controls 4 channels, TLC880 : one CU controls 2 channels)

NAME	1	2	-	3	4	-	5	6	7	8	-	9	10	-	11	12	-	13
TLC990C [®]	■	■		■	■	■	■	■	■	■		■	■		■	■		■
	■	■		■	■	■	■	■	■	■		■	■		■	■		■
TLC880C	■	■		■	■		■	■	■	■		■	■		■	■		■

NO	NAME	SIGN	CONTENT
1	Control Method	1	1channel Normal Control
		2	2channel Normal Control
		H	Heating / Cooling Control
		C	Cascade Normal Control
2	Sampling Time	1	100msec / channel
		2	250msec / channel
3	Input Type & Range	1&3	Channel 1&3
		2&4	Channel 2&4
4	Output Type	1&3	Output 1&3
		2&4	Output 2&4
5	Control Type	1&3	Control 1&3
		2&4	Control 2&4
9	HBA (Option)	1&3	N: NONE B: HBA(100A)
		2&4	A: HBA(50A) C: HBA(12A)
11	Alarm Type	1	Alarm 1
		2	Alarm 2
13	Control Unit Type		N : Normal, R : Right, L : Left

TLC CONTROL UNIT Order Example

ORDER CODE : TLC990CE - 22 - K01 K05 - SRCR - AB - 03 04 (1,2channel)
- 22 - K01 K05 - SRCR - AB - 03 04 (3,4channel)

2 : 2channel Normal Control Control Method
2 : 250msec / channel Sampling Time
K01 : T/C K type (-200 ~ 1370 °C) Input type/Range (Channel 1&Channel 3)
K05 : T/C K type (-200.0 ~ 1370.0 °C) Input type/Range (Channel 2&Channel 4)
S : SSR Output type (Channel 1&Channel 3)
R : PID Control (Reverse) Control type (Channel 1&Channel 3)
C : SCR Output type (Channel 2&Channel 4)
R : PID Control (Reverse) Control type (Channel 2&Channel 4)
A : HBA (50A) Heat Burn-out Alarm (Channel 1&Channel 3)
B : HBA (100A) Heat Burn-out Alarm (Channel 2&Channel 4)
03 : Upper limit deviation Alarm 1 Type
04 : Lower limit deviation Alarm 2 Type

Input Type Table

T/C	Code	INPUT RANGE
K01		-200 ~ 1370 °C
K05		-200.0 ~ 1370.0 °C
K09		0.0 ~ 800.0 °C
T01		-200 ~ 400 °C
T05		-200.0 ~ 400.0 °C
T08		0.0 ~ 400.0 °C

RTD

Code	INPUT RANGE
PA2	-200.0 ~ 850.0 °C
PC1	-50.00 ~ 150.00 °C

Output Type & Control Table

Control Table	Control Table
S : SSR (0~12 V DC) *note1	A : ON/OFF Control (Reverse)
C : SCR (4~20 mA DC)	C : ON/OFF Control (Forward)
R : Relay *note2	R : PID Control (Reverse)
1 : 0~20 mA DC	F : PID Control (Forward)
2 : 0~5 V DC	*note1) 0~15V DC of SSR on TLC990
3 : 1~5 V DC	*note2) Relay is not available on TLC990
4 : 0~10 V DC	
5 : 0~100 mV DC	

Alarm Type Table

No	Alarm Type	Output Method	Standby Motion
		Fwd., Rev.	Off On
01	PV upper limit (AH,F)		
02	PV Lower limit (AL,F)		
03	Deviation Upper limit (DH,F)		
04	Deviation Lower limit (DL,F)		
07	Deviation Up&Low Limit Out (DO,F)		
08	Deviation Up&Low Limit In (DI,F)		

* The cord table which is various wishes referring to the operating manual.

TLC990 DIO / DO UNIT Model and Order Code

NAME	1
TLC990D [®]	■

TLC990 DIO / DO UNIT Order Example

ORDER CODE : TLC990DE - A

A : DI 8 Points & DO 5 Points

NO	NAME	SIGN	CONTENT
1	DIO & DO (Option)	A	Independent DO 5 points Common DI 8 points
		B	Independent DO 10 points



Individual RUN/STOP without trigger

Prevent malfunction by communication delay case of multilful alarms.

Prevent malfunction by comm. delay case of multilful alarms.

Selectable data communication

It prevents from decreasing speed by unnecessary large data

Users' communication

User can change whole by TLC data at the PLC

Automatically connecting recognition

Recognizing devices without initialization

Self testing software

TLC automatically tests installation state

Heater Burn-out Alarm (12A, 50A, 100A)

Supporting whole control output (1,2&3 channel) - Option

40 Digital Outputs / 32 Digital Inputs

The various alarm output is possible
The individual RUN/STOP is possible using external inputs

Power saving mode

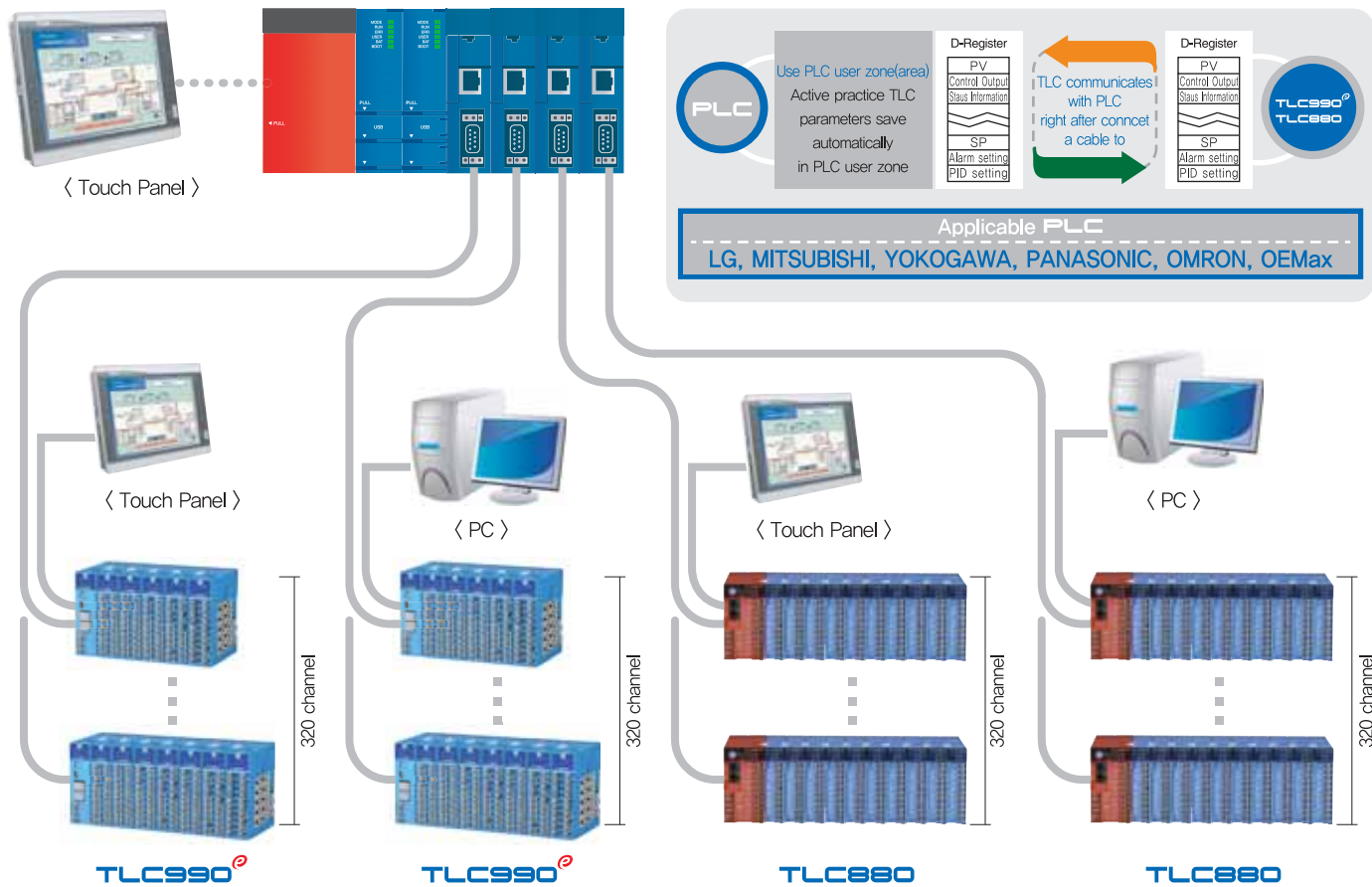
By automatic control of MV, the system is economical and safe

Multi-loop Temperature Controller
TLC990
TLC880



TLC can communicate any PLC without extra softwares and control Max. 1280 channel at once **Control**

- Connect each Max. 320 channel to one PLC module. So, Max, 1280 channel connectable

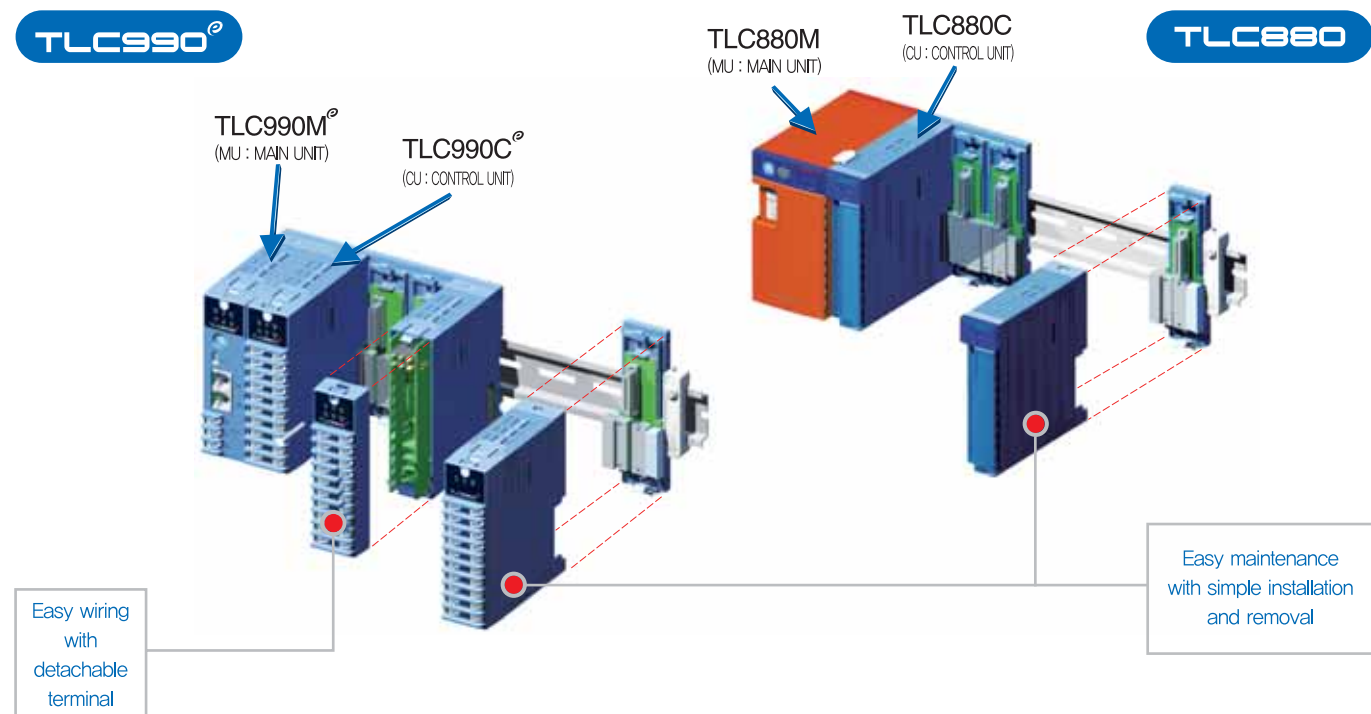


Product Specification

Specifications

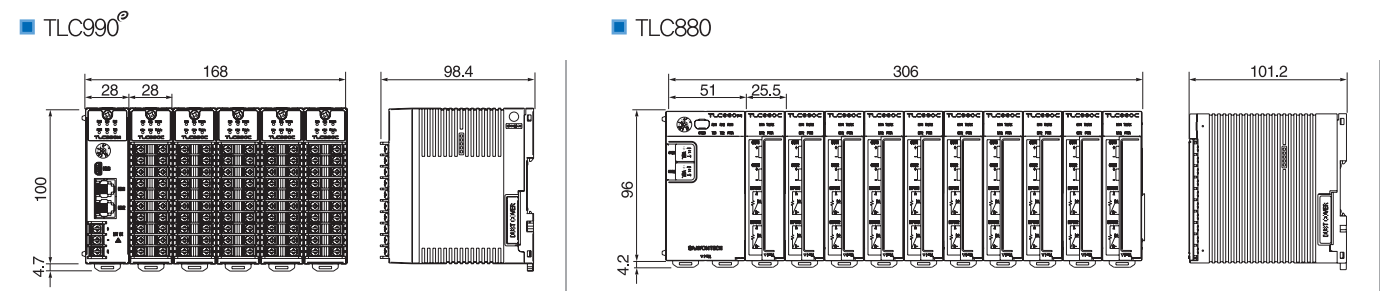
Classification	Specified item	TLC990 [®]	TLC880	
Display method		No indication : Parameter setting and monitoring using external connected devices(PC, PLC, GP, etc.) and serial communications(PC only program)		
Number of Channel		4 channel/CU, Max, 20 channel(MU 1EA + CU 5EA)	2 channel/CU, Max, 20 channel(MU 1EA + CU 10EA)	
Max, number of control channel		1280 channel		
Control mode		Normal Control, Heating · Cooling Control, Cascade Normal Control, Cascade Heating · Cooling Control		
Analog input	Form	Universal Input		
	Kind	T/C	K, J, E, T, R, B, S, L, N, U, W, PL, C	
		RTD	PtA, PtB, PtC, JPtA, JPtB, JPtC	
		DCV	0 ~ 10mV DC, -10 ~ 10mV DC, -10 ~ 20mV DC, 0 ~ 100mV DC, -50 ~ 100mV DC, 0 ~ 1V DC, -1 ~ 1V DC, 0 ~ 5V DC, 1 ~ 5V DC, -5 ~ 5V DC, 0.4 ~ 2V DC, 0 ~ 10V DC, -5 ~ 10V DC(4 ~ 20mA, 0 ~ 20mA, External Resistance 250Ω, 500Ω Attach)	
Sampling Time	250ms/Channel			
Input Accuracy	±0.1% of Full Scale ±1 digit (A/D 18bits)			
Analog output	SSR	ON voltage : 15VDC (Load resistance : Min, 600Ω / Pulse width : Min, 5ms)	ON voltage : 12VDC (Load resistance : Min, 600Ω / Pulse width : Min, 5ms)	
	SCR	4 ~ 20mA DC, 0 ~ 20mA DC, 0 ~ 5V DC, 1 ~ 5V DC, 0 ~ 10V DC, 0 ~ 100mV DC (Load resistance : Max, 550Ω)		
	RELAY	Normal Open (Max, 250V AC / 1A, 30V DC / 1A)		
	Output Level	±0.3% (D/A 14bits)		
Digital input / Digital output		DI 32point & DO 20point, DO 40point Max,	DI 4point & DO 4point	
Heater Short(HBA)	Type	12A, 50A, 100A		
	Level	±3% of Full Scale ±1 digit		
	CT sensor	800 : 1		
Alarm	2point/channel(21 Type)			
	System	RS232C, RS422A, RS485		
	Protocol	PC Link, MODBUS		
Communication	Speed	9600, 19200, 38400 bps		
	Power	24V DC		
Electric source	Power Consumption	6VA Max, (MU 1EA), 4.7VA Max.(CU 1EA)	90~240V AC, 50/60Hz	
		25VA Max, (MU 1EA + CU 5EA)	12VA Max, (MU 1EA + CU 1EA)	
		35VA Max, (MU 1EA + CU 5EA + DO 4EA)	43VA Max, (MU 1EA + CU 10EA)	
Operating environment	10 ~ 50°C, 20 ~ 90%RH			
Weight		MU : 116g, CU : 182.5g	MU : 260g, CU : 110g	
		DIO : 205g, DO : 190g		

Improved maintenance and repair with simple installation and removal **Improvement**



External Dimension(20channels)

Quality Parts



Optional device(Sold Separately)

Quality Parts

