LCD Digital Temperature controllers

VX series

High-performance temperature controller with wide LCD angle, convenient and excellent control performance

- Increased visibility
- Durable ABS keys
- short body size
- Fast tuning
- High - Accuracy
- High-speed sampling cycle
- Configurable by PC
- Loader cable
- Communication

HANYOUNG NUX

01 Visibility

Wide angle, Various colors, Increased visibility with large character size

- ▶PV: 14 segment display(17% increased from existing products)
- ▶SV:11 segment, MV:7 segment value display(VX2,7,9)
- ▶MV display: Available for only VX2, VX7, VX9
  (VX4: Press the MD key to check MV value in RUN status)
- ▶Improved visibility by characters in white, green, yellow color
- ▶Control status, communication status and function fault can be checked immediately by various indicators

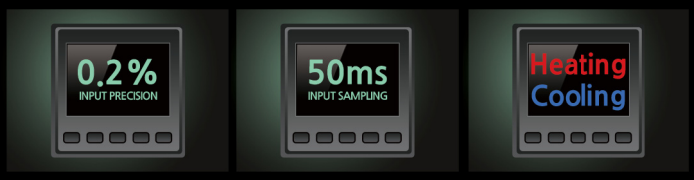
▶ Previous model

▶ VX

02 Superior control performance

High precision & high speed sampling

- ▶Realization of high precision control(display accuracy ±0.2% of FS ±1 digit)
- ▶Applicable to fast control system by high-speed sampling cycle
- ▶Optimized for environments requiring high-speed response
- ▶Heating & cooling simultaneous control



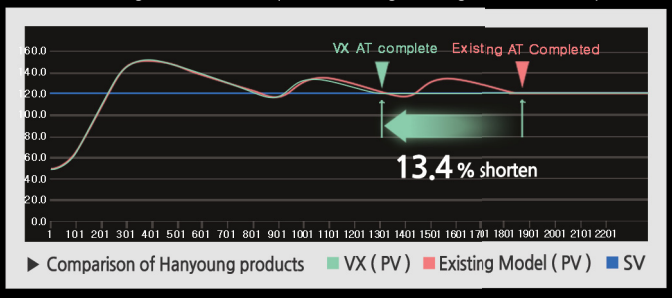
▶ 0.2 % Display accuracy

▶ 50 ms High-speed sampling

▶Heating & Cooling control

Reduced tuning time Optimal Control

▶ Fast tuning time of 1.5 cycle(existing tuning time: 2.25 cycle)



Various options

- ▶Thermocouple, RTD, Analog Input
- ▶Standard Control, Heating Cooling Control, Ramp Control
- ▶4 PID groups, 4 SV settings, 4 auxiliary outputs(VX4: max 3 outputs)
- ▶Various alarm function and high capacity relay(5A, 220VAC)
- ▶Loop Break Alarm(LBA), Retransmission output (RET), Digital Input(DI) Remote Input(REM), Heater Break Alarm(HBA)
- ▶RS485 communication(Modbus RTU) (PC-Link, PC-Link SUM, ModbusASCII)

03 Convenience

Space saving,Front panel protection structure, Improved button operation

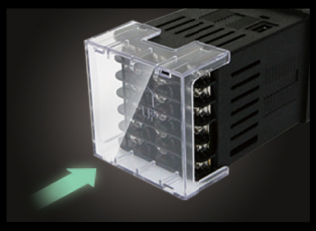
- 63 mm depth short body
  (78.4 mm depth with additional protective cover)
- Front panel protection(VX4:IP66, VX2,7,9:IP65)
- Easy to maintain/repair with front separation structure
- Smooth touch and durability with tact switch
  (ABS material)

▶ 63mm short body size

▶ Safe use in dust and waterproof environments

▶ Easy replacement without re-wiring through front detachment

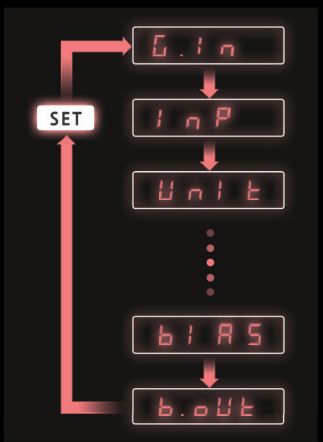
▶ Improved durability using ABS tact switch



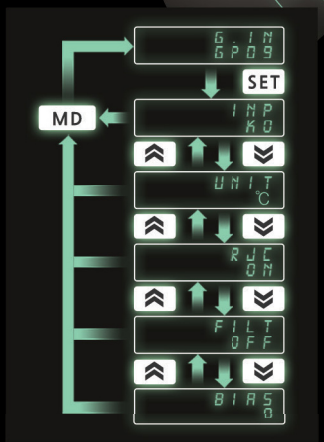
▶ Protective cover can be attached (Sold separately)

Easy menu settings

- Convenient and time saving setting by up/down key
- Easy operation through full/basic/easy menu
- Front function key(RUN/STOP, AT, MANUAL/AUTO output, Lock)



▶ Existing parameter setting method
(One-way movement)



▶ VX parameter setting method
(Two-way movement)

Parameter setting on PC

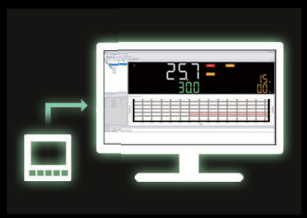
- Hanyoung Nux total communication software(TCS)
- Real time monitoring / recording / parameter setting by TCS

※ TCS freeware download at eng.hynux.com

USB Loader Function

- MINI USB 2.0 cable(NMC-UM210)/ Sold separately
- Easy parameter value backup
- Can be set in non-power source

▶ Simply connecting USB cable



▶ VX and TCS Connection with USB cable

Specifications

Classification			VX2	VX4	VX7	VX9
Input	Thermocouple		K, J, E, T, R, B, S, L, N, U, W, PLII			
	Reference junction compensation accuracy		±1.5 ℃ (within -10 ~ 50 ℃)			
	RTD		JPT100, PT100			
	Allowable line resistance		Each 3 wire within 10 Ω (but the resistance among 3 lines should be same)			
	DC voltage / current		1 ~ 5 V (4 ~ 20 mA), 5 V (0 ~ 20 mA), 0 ~ 10 V, 0 ~ 50 mV, 0 ~ 100 mV			
	Sampling cycle		50 ms			
Control output	Relay output		▶Rated switching capacity: 5A 250 VAC, 5 A 30 VDC ▶Max. switching power: 750 VA, 90 W ▶Max. switching voltage: 250 VAC, 110 VDC ▶Max. switching current: 5 ▶Mechanical life: 20 million times (at 180 CPM)			
	Voltage pulse output		12 VDC ± 1 VDC pulse voltage (load resistance min. 600 Ω)			
	Current output		4 ~ 20 mA ± 0.2% of FS ± 1 digit, load resistance: max. 600 Ω			
Control	Control type		ON/OFF, PID control, 2DOF PID control			
	Output operation		Reverse action, direct action			
Memory	Non-volatile memory life		▶EEPROM unlocked: when setting E2P.L: OFF in G.SET group (EEPROM life: 1 million times write guaranteed) ▶EEPROM locked: when setting E2P.L: ON in G.SET group (store in RAM)			
Display part (H * W) mm	Display method		Wide viewing angle LCD			
	PV character		20.5 x 6.9	15.2 x 6.8	19.8 x 9.3	29.0 x 13.6
	SV character		12.8 x 5.9	7.4 x 3.9	10.2 x 4.9	15.0 x 7.2
	MV character		9.3 x 4.4	7.4 x 3.9	7.5 x 3.3	11.0 x 4.8
USB Loader	Communication method		USB 2.0			
	Protocol		Protocol : PC-LINK	Baudrate : 38400 bps	Start bit : 1 bit	Data bit : 8bit	Parity bit : None	Stop bit : 1bit
	Communication distance		Within 5 m			
Option	Sub output		Relay 1 ~ 4 outputs, rated switching capacity: 5A 250 VAC, 5 A 30 VDC			
	Digital input		2 points or 4 point ▶Contact input ON : 1 KΩ max. ▶OFF: 100 KΩ min. ▶Non-contact input ON : 1.5 V max. ▶OFF: 0.1 mA max. ▶Current Flow : approx. 2 mA per contact ▶Voltage at open : Approx. 5 V DC			
	Retransmission output		1 output, 4 ~ 20 mA ± 0.2% of FS ± 1 digit, load resistance: max. 600 Ω			
	Remote input		1 input, 4 ~ 20 mA (1 ~ 5 V)			
	Current detection input		1 input or 2 inputs, 0.0 - 50.0 A, CT-70 current transformer (sold separately)			
	RS-485	Communic. method	EIA RS485 standard, 2-wire half-duplex			
		Max. connections	31 (address setting 1~99 available)			
		Communic.sequence	No sequence			
		Communic.distance	Within 1.2 ㎞			
		Communic. speed	4800, 9600, 14400, 19200, 38400, 57600 BPS			
		bit	▶Start bit : 1 bit ▶Data bit : 7 or 8 bit ▶Parity bit : NONE / EVEN / ODD ▶Stop bit : 1 or 2 bit			
		Protocol	PC-LINK STD, PC-LINK WITH SUM, MODBUS-ASCII, MODBUS-RTU			
		Response time	Actual response time = processing time + (response time X 50 ㎳)			
Power	Power voltage		100 - 240 VAC, 50/60 Hz			
	Voltage fluctuation rate		±10 % of power voltage			
	Insulation resistance		Min. 20 ㏁, 500 VDC			
	Dielectric strength		3,000 VAC, 50/60 Hz for 1 minute (between 1st and 2nd terminal)			
	Power consumption		Max. 8.5 VA	Max. 8.5 VA	To be announced	To be announced
	Ambient temperature & humidity		-10 ~ 50 ℃, 35 ~ 85 % RH (without condensation)			
	Storage temperature		-25 ~ 65 ℃			
Approval			CE KC cULus US		To be announced	To be announced
			▶Electrostatic discharge (ESD) : KN61000-4-2 ▶EFT(RS) : KN61000-4-3 ▶Conductive RF (CS) : KN61000-4-6 ▶SURGE : KN61000-4-5			
			IP65 (front panel)	IP66 (front panel)	To be announced	To be announced
Weight (g)			202	120	To be announced	To be announced
Basic components			Main body, Bracket, 250 Ω resistor (1%) , Rubber packing, Instruction manual			

Suffix code

Model	Code	Content
VX	□-□□□□□-□□□□□□	LCD Digital Temperature Controller
Size	2	48(W) × 96(H) × 63(D) ㎜
	4	48(W) × 48(H) × 63(D) ㎜
	7	72(W) × 72(H) × 63(D) ㎜
	9	96(W) × 96(H) × 63(D) ㎜
Sensor	U	Universal input
OUT 1 (control output 1)	M	Relay output
	S	Voltage pulse output (voltage pulse output for SSR drive)
	C	Current output (4-20 mA current output for SCR drive)
OUT 2 (control output 2)	N	None
	M	Relay output
Power	A	100 - 240 VAC 50/60 Hz
Sub output	A1	1 relay output (VX4 basic option)
	A2	2 relay outputs (VX2, VX7, VX9 basic option)
	A3	3 relay outputs (※ *1,*2)
	A4	4 relay outputs (※ *2)
Communication		None
	C	RS-485 communication
Retransmission output (RET)		None
	T	Retransmission output (4 ~ 20 mA)
Digital input (DI)		None
	D2	2 digital inputs (DI 1 ~ 2)
	D4	4 digital inputs (DI 1 ~ 4)
Current detection input (CT)		None
	H1	Current detection input (CT) 1 contact
	H2	Current detection input (CT) 2 contacts
Remote input (REM)		None
	R	1 input, 4 ~ 20 mA (1 ~ 5 V)

※ * 1) Not available for VX4. However, when OUT2 is selected as 'M', SUB3 can be used according to the parameter setting.

※ * 2) Selectable from VX2, VX7, VX9 (VX4 is excluded)

※ Please refer to our user's manual, catalog or homepage for the model names of VX available for order.

※ Sold separately
- Current detector: CT-70
- USB loader cable: NMC-UM210
- Terminal protection cover

VX2	VX4	VX7	VX9
TC2A-COV	TC4A-COV	TC7A-COV	TC9A-COV

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The information contained in this catalogue may change without prior notice for upgrade purposes.

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