Digital Indicating Controller UT55A / UT52A / UT35A / UT32A

Model			UT55A	UT52A	UT35A	UT32A
Size	1/4 DIN		✔	—	✔	—
	1/8 DIN		—	✔	—	✔
	Depth from the panel surface (mm)		65	65	65	65
Control Scan Period	(msec)		Choice 50/100/200	Choice 50/100/200	200	200
Display Function	Number of PV Display Digits		5	5	5	5
	Active Color PV Display Function		✔	✔	✔	✔
	Guide Scroll Display Function		✔	✔	✔	✔
	Message Display Function		✔	✔	✔	✔
	Bar graph display (Number)		✔ (2)	✔ (2)	✔ (1)	✔ (1)
PV Input Indication Accuracy	(% of F.S.)		0.1	0.1	0.1	0.1
PV Input Type	TC		✔	✔	✔	✔
	RTD (3-wire)		✔	✔	✔	✔
	RTD (4-wire)		✔	✔	—	—
	mV, V		✔	✔	✔	✔
	mA		✔	✔	✔	✔
Number of Analog Inputs	Standard (Maximum)		1 (4)	1 (2)	1	1
Number of SPs (PIDs)	Maximum		8	8	4	4
Number of Control Modes	Maximum		8	8	1	1
Number of Control Types	Maximum		8	8	5	5
Control Output	Type	Relay Contact Output, Voltage pulse output, Current output	✔	✔	✔	✔
	Algorithm	ON/OFF	✔	✔	✔	✔
		PID (Continuance, Time Proportion)	✔	✔	✔	✔
		Position proportional	✔	✔	✔	✔
		Heating / cooling	✔	✔	✔	✔
Number of Analog Outputs	Standard (Maximum)		2 (3)	2 (3)	2	2
Number of Digital Inputs	Standard (Maximum)		3 (9)	3 (5)	2 (7)	2 (4)
Number of Alarms			8	8	4	4
Number of Digital Outputs	Standard (Maximum)		3 (18)	3 (5)	3 (8)	3 (5)
Communication	RS-485 communication (Maximum)		✔ (2)	✔ (1)	✔ (1)	✔ (1)
	Ethernet communication		✔	—	✔	—
	Open Network (CC-Link/PROFIBUS-DP /DeviceNet)		✔	—	✔	—
Various Function	Quick Setting Function		✔	✔	✔	✔
	Split Computation Output Function		✔	✔	—	—
	Ratio and Square Root Extraction Function		✔	✔	—	—
	Remote SP Function		✔	✔	—	—
	24 V DC Loop Power Supply Function		✔	✔	✔	✔
	Heater Break Alarm Function		✔ (Standard type)	✔ (Standard type)	✔ (Standard type or Heating/cooling type)	✔ (Standard type or Heating/cooling type)
Ladder Sequence Function	(Number of max. steps)		✔ (500)	✔ (500)	✔ (300)	✔ (300)
Other Specifications	Power Supply	AC100 V to 240 V	✔	✔	✔	✔
		AC/DC 24 V	✔	✔	✔	✔
	Dust and waterproof Level of Front Panel		NEMA4*1 (IP56)	NEMA4*1 (IP56)	NEMA4*1 (IP56)	NEMA4*1 (IP56)
	Configuration Tool	Via Light-loader Communication	✔	✔	✔	✔
		Via Maintenance Port Communication	✔	✔	✔	✔
		Via RS-485/Ethernet communication	✔ / ✔	✔ / —	✔ / ✔	✔ / —

The table above includes specifications of the standard models only.

* 1: Hose down test only.

Input Range

Input type	
TC	K, J, T, B, S, R, N, E, L, U, W PL-2, PR20-40, W97Re3-W75Re25
RTD	JPt100, Pt100
DC Voltage	0.4 to 2.0 V, 1.0 to 5.0 V, 0.0 to 2.0 V, 0 to 10 V, -10 to 20 mV, 0 to 100 mV
DC Current	4 to 20 mA, 0 to 20 mA

Model			UP55A	UP35A	UM33A
Size	1/4 DIN		✔	✔	—
	1/8 DIN		—	—	✔
	Depth from the panel surface (mm)		65	65	65
Control Scan Period	(msec)		Choice 100/200	200	Choice 50/100/200
Display Function	Number of PV Display Digits		5	5	5
	Active Color PV Display Function		✔	✔	✔
	Guide Scroll Display Function		✔	✔	✔
	Message Display Function		✔	✔	✔
	Bar graph display (Number)		✔ (2)	✔ (1)	—
PV Input Indication Accuracy	(% of F.S.)		0.1	0.1	0.1
PV Input Type	TC		✔	✔	✔
	RTD (3-wire)		✔	✔	✔
	RTD (4-wire)		✔	—	—
	mV, V		✔	✔	✔
	mA		✔	✔	✔
Number of Analog Inputs	Standard (Maximum)		1 (4)	1	1
Number of SPs (PIDs)	Fixed		8	4	—
Number of Control Modes	Maximum		5	1	—
Number of Control Types	Maximum		4	4	—
Control Output	Type	Relay Contact Output, Voltage pulse output, Current output	✔	✔	—
	Algorithm	ON/OFF	✔	✔	—
		PID (Continuance, Time Proportion)	✔	✔	—
		Position proportional	✔	✔	—
		Heating / cooling	✔	✔	—
Number of Analog Outputs	Standard (Maximum)		2 (3)	2	1
Number of Digital Inputs	Standard (Maximum)		8 (9)	3 (8)	2
Number of Program Patterns	Standard (Maximum)		30	2 (4)	—
Number of Programs / Number of Segments per Pattern	Standard (Maximum)		300 / 99	20 (40) / 10	—
Number of PV Events	(Per segment)		8	2	—
Number of Time Events	(Per segment)		16	4	—
Number of Alarms	Maximum		8	2	8
Number of Digital Outputs	Standard (Maximum)		8 (18)	3 (8)	3 (9)
Communication	RS-485 communication (Maximum)		✔ (2)	✔ (1)	✔ (1)
	Ethernet communication		✔	✔	—
	Open Network (CC-Link/PROFIBUS-DP /DeviceNet)		✔	✔	—
Various Function	Quick Setting Function		✔	✔	✔
	Split Computation Output Function		✔	—	✔
	Ratio and Square Root Extraction Function		✔	—	✔ *3
	Remote SP Function		✔	—	✔
	24 V DC Loop Power Supply Function		✔ *2	✔ *2	✔
	Heater Break Alarm Function		✔ (Standard type)	✔ (Standard type)	—
Ladder Sequence Function	(Number of max. steps)		✔ (500)	✔ (300)	—
Other Specifications	Power Supply	AC100 V to 240 V	✔	✔	✔
		AC/DC 24 V	✔	✔	✔
	Dust and waterproof Level of Front Panel		NEMA4*1 (IP56)	NEMA4*1 (IP56)	NEMA4*1 (IP56)
	Configuration Tool	Via Light-loader Communication	✔	✔	✔
		Via Maintenance Port Communication	✔	✔	✔
		Via RS-485/Ethernet communication	✔ / ✔	✔ / ✔	✔ / —

The table above includes specifications of the standard models only.

* 1: Hose down test only.
* 2: This function is available when the /L4 or /LC4 option is specified with the detailed code model.
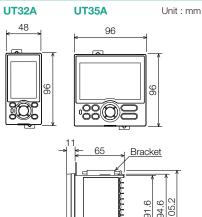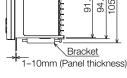* 3: Square root extraction available

Main Features

- 4 target setpoints (PID numbers) available as standard
- 3 alarm independent common terminals available as standard
- Ladder sequence programs can be built
- Simple operation
- Up to 8 DOs (combinations available)
- Multiple language operation manual (Japanese, English, German, French, Spanish, Chinese, and Korean) available. Please specify the desired language when ordering.

External Dimensions

UT32A **UT35A** Unit : mm

Model and Suffix Codes

Model	Suffix code		Optional suffix code	Description
UT35A				Digital Indicating Controller (provided with retransmission output or 15 V DC loop power supply, 2 DIs, and 3 DOs) (Power supply: 100-240 V AC)
Basic control	-0			Standard type
	-1			Position proportional type
	-2			Heating / cooling type
Functions		0		None
		1		2 additional DIs and 2 additional DOs
		2		5 additional DIs and 5 additional DOs
Open networks			0	None
			1	RS-485 communication (Max.38.4 kbps, 2-wire / 4-wire)
			2	Ethernet communication (with serial gateway function)
			3	CC-Link communication (with Modbus master function)
			4	PROFIBUS-DP communication (with Modbus master function)
			5	DeviceNet communication (with Modbus master function)
Display language (*1)			-1	English
			-2	German
			-3	French
			-4	Spanish
Case color			0	White (Light gray)
			1	Black (Light charcoal gray)
			-00	Always "-00"
Options			/LP	24 V DC loop power supply (* 2)
			/HA	Heater break alarm (* 3)
			/DC	Power supply 24 V AC / DC
			/CT	Coating (* 4)

* 1: English, German, French, and Spanish can be displayed as the guide display.
* 2: The /LP option can be specified in combination with function code "0" or "1" and open network code "0" or "1."
* 3: The /HA option can be specified when basic control code is "-0" or "-2."
* 4: When the /CT option is specified, the UT35A does not conform to the safety standards (UL and CSA) and CE marking.

Model	Suffix code		Optional suffix code	Description
UT32A				Digital Indicating Controller (provided with retransmission output or 15 V DC loop power supply, 2 DIs, and 3 DOs) (Power supply: 100-240 V AC)
Basic control	-0			Standard type
	-1			Position proportional type
	-2			Heating / cooling type
Functions		0		None
		1		RS-485 communication (Max.38.4 kbps, 2-wire / 4-wire) (* 2)
		2		2 additional DIs and 2 additional DOs
Open networks			0	None
Display language (*1)			-1	English
			-2	German
			-3	French
			-4	Spanish
Case color			0	White (Light gray)
			1	Black (Light charcoal gray)
			-00	Always "-00"
Options			/LP	24 V DC loop power supply (* 2)
			/HA	Heater break alarm (* 3)
			/DC	Power supply 24 V AC / DC
			/CT	Coating (* 4)

* 1: English, German, French, and Spanish can be displayed as the guide display.
* 2: The /LP option can be specified in combination with basic control code "-0" or "-1" and function code "0" or "1." Futhermore, when the function code is "1," the RS-485 communication is 2-wire system.
* 3: The /HA option can be specified when basic control code is "-0" or "-2."
* 4: When the /CT option is specified, the UT32A does not conform to the safety standards (UL and CSA) and CE marking.

Sold separately (Accessory)

Model Name	Model	Note
Terminal Cover	UTAP001	For UT55A/UT35A/UP55A/UP35A
	UTAP002	For UT52A/UT32A/UM33A
User's Manual (CD-ROM)	UTAP003	

■ Universal Output

User selectable for Relay, Voltage Pulse and Current outputs.

- Relay output: ON/OFF control, Time-proportional PID control
- Voltage Pulse output: Time-proportional PID control
- Current output: Continuous PID control

Heating/Cooling Control has two sets of universal outputs.

- Any combinations of Relay, Pulse and Current outputs are available.

Drive a Motorized Control Valve by using Position-Proportional PID.

- The position-proportional PID control function has two sets of relay outputs for direct / reverse rotation of motorized control valve.
- The slide wire input to feed back the valve position is also available.

■ Auto-Tuning (AT) Function

The following conditions can be set in order to increase the accuracy of calculating PID constants using AT .

1) Two types of algorithms to calculate PID constants are available for selection.
   Normal: Fast-rising PID constant
   Stable: Slow-rising PID constant
2) High and low output limits can be set individually for control output values during AT runtime.