

General Specifications

GS 05P01C81-41EN

UT52A/MDL, UT32A/MDL
Digital Indicating Controller
(DIN Rail Mounting and Wireless
Communication Type)

UTAdvanced

Overview

The UT52A/MDL and UT32A/MDL controllers are multi-function I/O device for wireless monitoring.

This controller is ideal for monitoring a small number of items such as detection of operating conditions and abnormalities.

When you want to correct the I/O with a 10-segment linearizer, square root, or other function, we recommend the UT52A. For an inexpensive, simple I/O device, we recommend the UT32A.

For more details of control function, please see General Specification GS 05P01C81-01EN for UT52A/MDL or General Specification GS 05P01D81-01EN for UT32A/MDL.

Features

- Wireless communication (902.1 to 927.9 MHz):
The addition of a 920 MHz wireless function to the UT52A/MDL and UT32A/MDL enables wireless data communication with the GX20 paperless recorder or GM data acquisition system (/CM2 option) as the base station. It can also be used as a repeater.



UT52A-00B/MDL



UT32A-00B/MDL

(Terminal cover is optional.)

Communication Function

	Function	Method	Interface	Targets	Max connection	Communication Data
920 MHz wireless communication	Wireless communication between GX20 and GX10 devices.	Wireless slave	920 MHz wireless	GX20, GM10	99 devices (*1)	PV, SP, OUT, ALM etc
		Gateway function	920 MHz wireless + RS-485	RS485: UT75A/UT55A/UT52A/UT35A/UT32A/UP55A/UP35A/UP32A/UM33A	31 units	

*1: Total including the number of gateway connections

920 MHz wireless communication (with 920 MHz wireless function)

The addition of a 920 MHz wireless function to the UT52A/MDL and UT32A/MDL enables wireless data communication with the GX20 paperless recorder or GM data acquisition system (/CM2 option) as the base station.

This function can also be used as a repeater to extend the communication distance.

Note: Do not write parameters through wireless communication while running. Use only during maintenance.

- Wireless communication standard: FCC Part 15 Subpart C compliant (§15.247)
- Carrier frequency band: 902.1 to 927.9 MHz
- Wireless channel bandwidth: 600 kHz
- Number of wireless channels: 43
- Maximum transmission output: 20 mW
- Modulation method: GFSK
- Antenna: External antenna (sold separately), SMA-P(reverse) connector
- Data rate: 100 kbps max.
- Communication distance (line-of-sight distance): 800 m max. (depends on the operating environment)
- Communication format: Mesh/multi-hop (*) (maximum number of hops: 16)

* A function that automatically selects the best communication path according to the communication quality between units. It can be used to extend the communication distance and improve the radio quality.

- LED display: Displays the wireless status using ST1 (green/red) and ST2 (green/red)
- Security function: AES 128 bit encryption
- Implemented protocol: Modbus (slave) protocol
- Modbus slave function: Data can be written and read from Modbus master devices.
- Configuration/measurement communication: The following functions are available using the dedicated software (*).

UT52A/MDL, UT32A/MDL wireless communication configuration

UT52A/MDL, UT32A/MDL wireless communication status monitoring

* MH920 Console International, a console software application made by Oki Electric Industry Co., Ltd.



- Wireless communication configuration interface: USB 2.0 mini-B type)

Usage: Only for maintenance purposes such as changing wireless communication parameters

- Reboot switch: For rebooting the system after changing wireless settings

Dedicated External Antenna (Sold separately) (*)

Item	Type	
	Sleeve antenna	Roof top antenna
Part number	A1061ER	A1062ER
Installation environment	Indoors	Indoors and outdoors
Cable length	-	2.5m
Antenna type	Dipole	Standalone
Maximum gain	3 dBi or less	2 dBi or less
Directivity	No directivity	

Connector	SMA-P(reverse)	
Operating temperature range	-20 to 65°C	
Waterproof property	Not waterproof	Water resistant (IPX6)
Dimensions	196 mm (including the connector)	83 mm (including the base stand)
		

* Only dedicated antennas can be used.

- Connectable registers depending on the Modbus communication cycle of the GX/GM base station

Connectable units	Modbus communication cycle			
	500 ms	1 s	2 s	5 s
1	27	100	100	100
2	-	27	100	100
4	-	-	27	100
8	-	-	-	58

* The number of readout registers when the GX20 or GM10 is the base station. This varies depending on the processing load in the device and communication quality.

Safety and EMC Standards

- The UT52A/MDL's 920 MHz wireless communication (with serial gateway function) and UT32A/MDL's 920 MHz wireless communication (with serial gateway function) comply with the US FCC standards and are approved by UL standards.

Construction

- External dimensions (mm):
UT52A/MDL (with the wireless communication) and UT32A/MDL (with the wireless communication): 48.2 (width) x 114 (height) x 104 (depth)

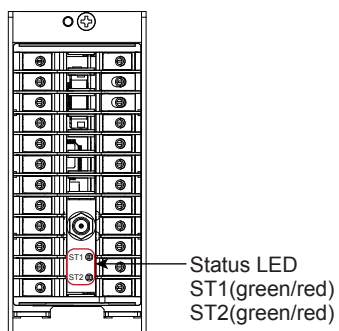
Isolation

- Isolation specifications

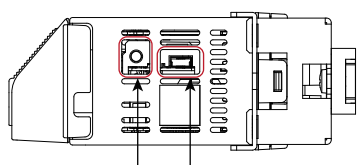
PV (universal) input terminals / maintenance port USB port for 920 MHz wireless communication configuration		Internal circuits	Power supply
Remote input terminals (for UT52A/MDL)			
Aux. analog (AIN2) input terminals (for UT52A/MDL)			
Aux. analog (AIN4) input terminals (for UT52A/MDL)			
Control, retransmission (analog) output terminals (not isolated between the analog output terminals)			
Control relay (contact point c) output terminals			
Alarm-1 relay (contact point a) output terminals			
Alarm-2 relay (contact point a) output terminals			
Alarm-3 relay (contact point a) output terminals			
Contact input terminals (all) RS-485 communication terminals			
24 V DC loop power supply terminals (for UT32A/MDL)			
Contact output (transistor) terminals			
Ethernet communication terminal			
PROFIBUS-DP/DeviceNet/CC-Link communication terminals			
Current transformer input terminals (for UT32A/MDL)			

The circuits divided by lines are insulated mutually.

Display, Switches, and Connectors (with 920 MHz wireless)



Device front side



Reboot switch USB port for 920 MHz wireless communication configuration

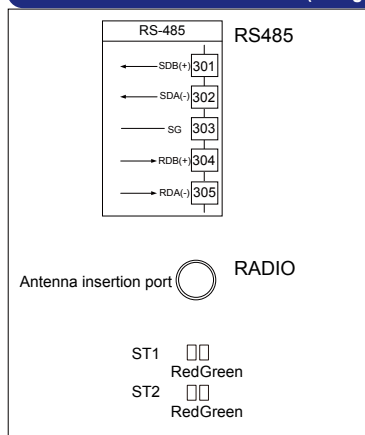
Device bottom side

■ Terminal Arrangement

301-312 E1-Terminal Area

(Suffix code: Type 3=B)

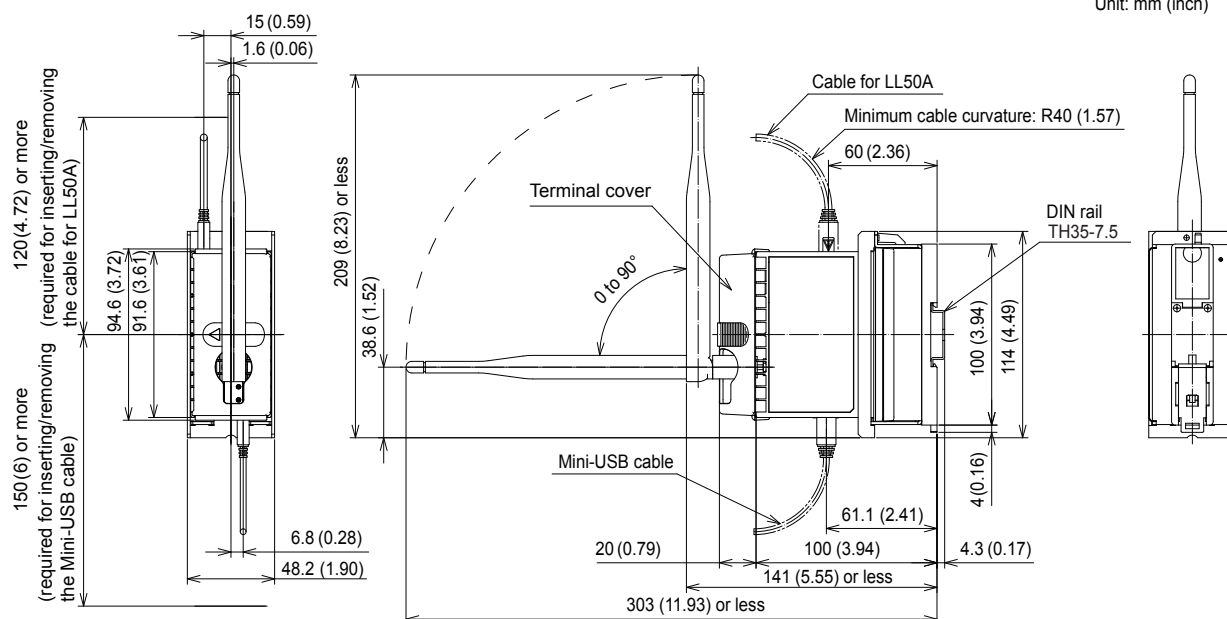
920 MHz wireless communication (with gateway function)



■ External Dimensions

When using the sleeve antenna

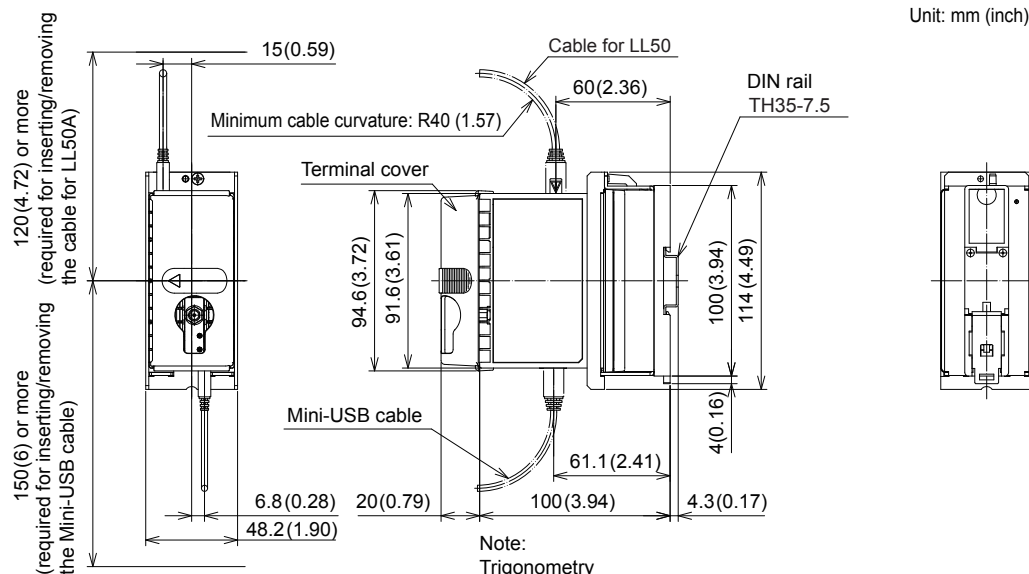
Unit: mm (inch)



Note:
Trigonometry
General tolerance = \pm (JIS B 0401-1998 tolerance class IT18)/2

When using the roof top antenna

Unit: mm (inch)



Note:
Trigonometry
General tolerance = \pm (JIS B 0401-1998 tolerance class IT18)/2

■ Model and Suffix Code

Model	Suffix code					Option code	Description
UT52A						/MDL (Required)	Digital Indicating Controller (Power supply 100-240 V AC) (provided with retransmission output or 15 V DC loop power supply , 3 DIs, and 3 DOs) (without the display parts and keys)
Type 1: Basic control	-0						Standard type
Type 2: Functions	0						None
	1						Remote (1 additional aux. analog) input, 1 additional DI, and RS-485 communication (Max. 38.4 kbps, 2-wire)
Type 3: Open networks	0						None
	3						CC-Link communication (with Modbus master function)
	B						Wireless communication (with serial gateway function) ^{(*)3}
Fixed code	-1						Temperature unit: deg C & deg F
Case color		1					Black (Light charcoal gray)
Fixed code			-00				Always "-00" (for Standard Code Model)
Option codes						/MDL (Required)	Mount on DIN rail (without the display parts and keys) ^{(*)1}
						/DC	Power supply 24 V AC/DC
						/CT	Coating ^{(*)2}

*1: When the /MDL option is specified, the model and the suffix codes are as follows:

UT52A-010-11-00/x/MDL, UT52A-003-11-00/x/MDL, UT52A-00B-11-00/x/MDL

*2: When the /CT option is specified, the UT52A does not conform to the safety standards (UL and CSA) and CE marking (Products with /CT option are not intended for EEA-market).

*3: UT52A-00B-11-00/x/MDL can only be used in the US.

When the wireless communication is specified, the UT52A does not conform to the safety standards (CSA) and CE marking (UT52A-00B-11-00/x/MDL is not intended for EEA-market).

Model	Suffix code					Option code	Description
UT32A						/MDL (Required)	Digital Indicating Controller (Power supply: 100-240 V AC) (provided with retransmission output or 15 V DC loop power supply, 2 DIs, and 3 DOs) (without the display parts and keys)
Type 1: Basic control	-0						Standard type
	-2						Heating/cooling type
Type 2: Functions	0						None
	1						RS-485 communication (Max. 38.4 kbps, 2-wire/4-wire) ^{(*)1}
Type 3: Open networks	0						None
	3						CC-Link communication (with Modbus master function)
	B						Wireless communication (with serial gateway function) ^{(*)6}
Fixed code	-1						Temperature unit: deg C & deg F
Case color		1					Black (Light charcoal gray)
Fixed code			-00				Always "-00" (for Standard Code Model)
Option codes						/MDL (Required)	Mount on DIN rail (without the display parts and keys) ^{(*)2} ^{(*)3}
						/LP	24 V DC loop power supply ^{(*)3}
						/HA	Heater break alarm ^{(*)4}
						/DC	Power supply 24 V AC/DC
						/CT	Coating ^{(*)5}
						/CV	Terminal cover

*1: When /LP option is specified, the RS-485 communication of the type 2 code "1" is 2-wire system.

*2: The /MDL option is specified, the model and suffix codes are follows:

UT32A-010-11-00/x/MDL

UT32A-003-11-00/x/MDL

UT32A-210-11-00/x/MDL

UT32A-00B-11-00/x/MDL

*3: When /MDL option and /LP option is combined, "3" and "B" can not be specified for Type 3 code.

*4: The /HA option can be specified only in the combination of Type2 code "1" and Type 3 code "0."

*5: When the /CT option is specified, the UT32A does not conform to the safety standards (UL and CSA) and CE marking (Products with /CT option are not intended for EEA-market).

*6: UT32A-00B-11-00/x/MDL can only be used in the US.

When the wireless communication is specified, the UT32A does not conform to the safety standards (CSA) and CE marking (UT32A-00B-11-00/x/MDL is not intended for EEA-market).

■ Standard accessories

Terminal cover and Operation Guide.

■ Special Order Items

Name	Model/Parts no.
Sleeve antenna (indoor use)	A1061ER
Roof top antenna (indoor and outdoor use, cable length: 2.5 m)	A1062ER
Terminal cover for Wireless communication	UTAP004
Wall mount bracket (for UT52A/MDL and UT32A/MDL)	UTAP005

User's Manual

Product user's manuals can be downloaded or viewed at the following URL. To view the user's manual, you need to use Adobe Reader 7 or later by Adobe Systems.

URL: <http://www.yokogawa.com/ns/ut/im/>