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AT9000 Advanced Transmitter Supplement Manual for HART[®]Communication Option

Azbil Corporation

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About This Publication

This manual is intended as a detailed "how to" reference for operating Azbil Corporation's AT9000 Advanced Transmitters with HART® communication option. It is based on using the HART® Communicator as the operator interface for the transmitter.

Note that this manual does not include a detailed reference for installing, piping the transmitter or detail operations of the HART® Communicator. Refer the user's manuals of AT9000 Advanced Transmitters (CM2-GTX100-2001) and the HART® Communicator.

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Chapter 1: Starting Communications

Instructions for connecting HART® Communicator to this transmitter.

Basic instructions for Key-pad operation.

1.1 : Connecting communicator

You connect the communicator directly to signal terminals on the transmitter's terminal block or at any location in the 4 to 20 mA loop. (Polarity of the communicator connection does not matter)





Do not hook up the HART® Communicator to the bilingual AT9000 in "DE Enable" while the control loop is in the automatic mode.

When the HART® communicator is hooked up to the bilingual AT9000 in "DE Enable", the transmitter output might trip due to the rush current generated by the big capacitance in the HART® communicator.

1.2 : HART® communicator keyboard



1.3 : Symbols on communicator screen

Flashing heart icon in the upper right corner indicates that the transmitter and communicator are communicating.
 This left arrow symbol indicates that the left arrow on the keypad



This left arrow symbol indicates that the left arrow on the keypad brings you back to previous menu.

for \downarrow These arrows indicate there is more column to scroll though, using the indicated arrow on the keypad.



This terminate icon in the upper right corner of the touch screen is used to end the application.

1.4 : Key Operation

\geq	Arrow keys Pressing the arrow keys selects the menu items in the menu structure. Pressing the right arrow (?) key returns to the previous menu.
	Tab key Pressing the Tab key selects the next menu item from those available.
4	Enter key Pressing the Enter key executes the item selected (highlighted) by pressing the Tab key.
9	Alphanumeric keys These keys are used to key in characters such as letters, numbers, and punctuation. Numeric mode or alphanumeric mode can be selected for data entry and option selection. For certain applications, the mode will be automatically selected. In alphanumeric mode, pressing an alphanumeric key several times quickly displays the corresponding letter or number. To key in "Z," for example, quickly press the "9" key 4 times in a row.
fa)	Function key The select functions for key entry can be used by pressing the Function key. The select functions are indicated in gray at the upper portion of each key. When the Function key is enabled, the Multifunction LED flashes orange and then an indicator appears on the "Soft Input Panel (SIP)." Pressing the key again disables this function.

The ON/OFF key has been pressed long enough to turn on the power.

Multifunction LED	Status
The green LED is on.	The power is ON.
The green LED is flashing.	Power saving mode is ON, display is OFF.
The green and orange LEDs are on	The Function key is enabled.
The green and orange LEDs are flashing.	The ON/OFF key has been pressed long enough to turn on the power.

1.5 : Establishing communications

This procedure starts communications between the transmitter and the communicator:

STEP	Action and/or Description				
1	Turn on communicator. The communicator runs a self-test check then determines if it is connected to a transmitter. After a while, the "375 Main Menu" screen will appear. Select "HART Application" and then press the right arrow (\rightarrow) key.				
2	 When communication is correctly established, the communicator will automatically proceed to step 3. If a message "(No. Device Found)" appears on the communicator, select "2 Online" and then press the right arrow (→) key. If "(No. Device Found)" is still displayed, check the following items. Loop resistance: Is there a minimum of 250 Ω resistance between the communicator and the power supply? Power supply: Is power applied? Is there greater than 11 volts at the transmitter? Correct any problems, and try communicating again. If the message, or any other error message, appears again, refer to user's manual of AT9000 Advanced Transmitter (CM2-GTX100-2001 "Chapter 7: Maintenance and Troubleshooting") 				
3	When the "Online" display - shown below - appears, you have estab- lished communication with the transmitter.				

1.6 : Checking basic data

This procedure checks the transmitter's factory-set configuration parameters:

STEP	Action and/or Description					
1	From the "Online" menu, enter "Device setup" by pressing the right					
	arrow (\rightarrow) key on the communicator keypad.					
2	Press the down arrow (\downarrow) key to scroll down to menu-item "5 Review".					
3	Press PREV and/or NEXT to scroll through the configuration data					
	including:					
	• Model					
	Measurement Type					
	Transfer Function					
	Cutoff Mode					
	• Height					
	• PROM No.					
	Software Rev					
	• Damping					
	• Lower Range Value (0%)					
	• Upper Range Value (100%)					
	Upper Range Limit					
	Fail Safe Direction					
	Display Mode					
	• Disp. Unit					
	• User Unit					
	• EULO (0%)					
	• EUHI (100%)					
	• Exponent					
	Output Low Limit					
	Output High Limit					
	Output Alarm					
	Lower Output Alarm					
	Upper Output Alarm					
	Sensor Temp. Alarm					
	Lower Sensor Temp. Alarm					
	Upper Sensor Temp. Alarm					
	Contact Output ON/OFF					
	Alarm Status					
	Contact Output Mode					
	Contact Output Status					
	• Output					
	• Pressure					
	Sensor Temp.					

STEP	Action and/or Description			
4	Press left arrow to go back to the "Device" menu			
5	Tap the X icon in the upper right corner of the touch screen to finish the communication. "HART Application" is finished and back to "375 Main Menu."			

Chapter 2 : Configuration

This section introduces you configuration of AT3000 with HART® option using the HART® Communicator.

This section also provides an overview of the HART® Communicator, including menus and keyboards.

2.1 : Top menu

The "Top menu" consists of 3 items.

- 1. Process Variables
- 2. Device
- 3. Diagnostic

2.2 : Process Variables menu summary



2.3 : Device menu summary



Configuration



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Configuration

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\			-		
	\Leftrightarrow		\Leftrightarrow	Model	
			\Leftrightarrow	Measurement Type	
			\Leftrightarrow	Transfer Function	
			\Leftrightarrow	Cutoff Mode	
			\Leftrightarrow	Height	
			\Leftrightarrow	PROM No.	
			\Leftrightarrow	Software Rev	
			\Leftrightarrow	Damping	
			\Leftrightarrow	Lower Range Value (0%)	
			\Leftrightarrow	Upper Range Value (100%)	
			\Leftrightarrow	Upper Range Limit	
			\Leftrightarrow	Fail Safe Direction	
			\Leftrightarrow	Display Mode	
			\Leftrightarrow	Disp. Unit	
			\Leftrightarrow	User Unit	
			\Leftrightarrow	EULO (0%)	
			\Leftrightarrow	EUHI (100%)	
			\Leftrightarrow	Exponent	
			\Leftrightarrow	Output Low Limit	
			\Leftrightarrow	Output High Limit	
			⇔	Output Alarm	
Device		Review	\Leftrightarrow	Lower Output Alarm	
			⇔	Upper Output Alarm	
			⇔	Sensor Temp. Alarm	
			⇔	Lower Sensor Temp. Alarm	
			\Leftrightarrow	Upper Sensor Temp. Alarm	
			\Leftrightarrow		⇔ Output Low
					⇔ Output High
				Contact Output ON/OFF	⇔ Sensor Temp. Low
					⇔ Sensor Temp. High
			⇔		⇔ Output Alarm Low
					⇔ Output Alarm High
				Alarm Status	⇔ Sensor Temp. Alarm Low
					⇔ Sensor Temp. Alarm High
			⇔	Contact Output Mode	
			⇔	Contact Output Status	
			⇔	Output	
			⇔	Pressure	
			⇔	Sensor Temp.	
				'	

2.4 : Diagnostic menu summary



<u>Note</u>

Chapter 3 : Start-up and Operation

This section identifies how to access typical data associated with the start-up and the operation of AT9000 with HART® communication option. It includes the procedure for running an analog output check

Index

	Items	HART parameters	Sections
Prepara- tion and	Checking the list of set values	Review	1.6 : Checking basic data
adjustment	Checking and setting the TAG NO.	TAG	3.2.7: Device > Device infor- mation
	Checking the current input and output values	Pressure, Output	3.1.1: Process Variables > Pro- cess Variables
	Checking and changing the setting range	Lower Range Value Upper Range Value	3.2.1: Device > Basic Setup
	Checking and setting the linear and square-root outputs	Transfer Function	3.2.1: Device > Basic Setup
	Checking and setting the damping time constants	Damping	3.2.1: Device > Basic Setup
	Checking and setting the pressure unit	Pressure Unit	3.2.2: Device > Sensors
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	Checking the self-diag- nostic messages	Diagnostic Status	3.3.1: Diagnostic > Diagnostic Status
	Checking the error records	Status Records	3.3.2: Diagnostic > Status Records

Please use this index to find the information you need.

3.1 : Process Variables

To check PV values, etc., enter the "Process Variables" menu. Select "Process Variables" from the top menu.

←	$\mathbf{H}_{\mathbf{N}}$		X
AT9000:FI	C-0001		
Online			
1 Process V	ariables		
2 Device			
3 Diagnostic	,		
	SAVE		

On the "Process Variables" menu, the settings for 5 items can be checked.

←	<u>H</u>		X
AT9000:	FIC-0001		
Process	s Variables		
1 Process 2 Pressur 3 Output 4 Tempe 5 All Var	s Variables re rature iables		
	SAVE	HOME	

3.1.1: Process Variables > Process Variables

If "Process Variables" is selected from the "Process Variables" menu, the settings for 6 items can be checked.

÷		Q			X		
АТ90	00:FI	C-0001					
Process Variables							
1 Pre	1 Pressure 0.0600 kPa						
2 Out	put	ut 0.12 %					
3 Ana	log O	utput		4.019 n	ıΑ		
4 Ser	sor Te	emp.	1	20.8 deg	JC		
5 Lov	ver Ra	nge Valu		0.000 kl	Pa		
6 Upp	er Ra	nge Valu	50.000 kPa				
HE	LP	SAVE	HOME				

3.1.2: Process Variables > Pressure

If "Pressure" is selected from the "Pressure Variables" menu, the settings for 6 items can be checked.



Selecting "Pressure Chart" will display the chart.



~Note

This chart can be displayed in case 375 communicator is licensed for "Graphics".

3.1.3: Process Variables > Output

If "Output" is selected from the "Process Variables" menu, the settings for 6 items can be checked.



3.1.4: Process Variables > Temperature

If "Temperature" is selected from the "Process Variables" menu, the settings for 2 items can be checked.

← AT9000:Fl	♡ C-0001			X
Temperat	ure			
1 Tempera 2 Sensor To	ture Chart emp.		20.8 deg	ιC
	SAVE	HOME		

3.1.5: Process Variables > All Variables

If "All Variables" is selected from the "Process Variables" menu, the settings for 8 items can be checked. The eighth item is "Sensor Temperature".

←	\heartsuit			X		
AT9000:FI	C-0001					
All Variabl	es					
1 Pressure (Gauge			^		
2 Pressure		0.0600 kPa				
3 Analog Ou	itput Gau					
4 Analog Ou	itput		4.019 m	A 📃		
5 Output Ga	uge					
6 Output		0.12 % 📃				
7 Temperature Gauge						
8 Sansar Ta	mn		20 8 rlor	iC 🔛		
	SAVE	HOME				

Selecting "Pressure Gauge", "Analog Output Gauge", "Output Gauge", or "Temperature Gauge" will display the corresponding value (analog display).



~Note *This graph can be displayed in case 375 communicator is licensed for "Graphics".*

3.2 : Device

To set the device, enter the "Device" menu. Select "Device" from the top menu.



The "Device" menu consists of 9 menu items.

←	<u>H′</u> \/\			X		
AT9000:FI	C-0001					
Device						
1 Basic Set	up			^		
2 Sensors						
3 Signal Co	ndition			_		
4 Output Co	ndition					
5 Alarm						
6 Display						
7 Device Information						
8 Calibratio	n ,		4	~		
	SAVE	HOME				

+	<u>H′</u> \/ _\		X
AT9000):FIC-0001		
Device			
3 Signa 4 Outpu 5 Alarm 6 Displa 7 Devic 8 Calibu 9 Revie	Il Condition at Condition a y e Information ration w		
	SAVE	HOME	

3.2.1: Device > Basic Setup

 \mathbf{H}^{1} -Ð Х AT9000:FIC-0001 Basic Setup 2 FIC-0001 1 Tag 2 Lower Range Valu... 0.000 kPa 3 Upper Range Valu... 50.000 kPa 4 Upper Range Limit 99.636 kPa 5 Damping 1.00 s 6 Transfer Function Linear HELP SAVE номе

On the "Basic Setup" screen, the settings for 6 items can be checked and changed.

To change the settings, select an item you want to change. The changed item will be indicated by an asterisk (*). The "SEND" button will appear in the lower part of the screen. To transmit the setting information to the device and determine the change, tap this button.

←	<u>H</u> ///			X		
AT9000:FI	C-0001					
Basic Set	up					
1 Tag		FIC-0001				
2 Lower Ra	nge Valu	0.000 kPa				
3 *Upper Ra	ange Valu	100.000 kPa				
4 Upper Ra	nge Limit	99	9.636 kl	^D a		
5 Damping			1.00)s		
6 Transfer I	unction		Line	ar		
HELP	SEND	HOME				

When you tap the "SEND" button, the following confirmation screen will appear. Tap "OK" if it is correct.



After the transmission is completed, the following WARNING screen will appear.

Follow the instruction and then tap "OK".



When the transmission is successfully completed, the asterisk will disappear.

←	<u>H′</u> \/√			X	
AT9000:F	IC-0001				
Basic Set	up	ů			
1 Tag		F	IC-000	01	
2 Lower Ra	nge Valu	0.000 kPa			
3 Upper Ra	nge Valu	100.000 kPa			
4 Upper Ra	nge Limit	99.636 kPa			
5 Damping			1.00	s	
6 Transfer	Function		Line	ar	
HELP	SAVE	HOME			

For "Transfer Function", you may select "Linear" or "Square Root".



3.2.2: Device > Sensors

On the "Sensors" screen, the settings for 5 items can be checked, and the settings for "Pressure Unit" and "Temp. Unit" can be changed.

t		\heartsuit			X	
AT9000:FIC-0001						
Sensors						
1 Pressure 0.0600 kPa						
2 Pre	ssure	Unit	kPa			
3 Upp	er Ra	nge Limit	99.636 kPa			
4 Ser	sor Te	mp.	21.2 degC			
5 Ten	np. Un	it		deg	JC J	
HE	LP	SAVE	HOME			

On the "Pressure Unit" screen, you may select the unit from 16 units [mmH2O, mH2O, inH2O, kPa, MPa, hPa, Pa, bar, mbar, mmHg, inHg, g/cm2, kg/cm2, atm, Torr, and psi].

<u>H</u>			X
AT9000:FIC-0001			
Pressure Unit			
kPa			
mmH2O			~
mH2O			=
inH2O			
kPa			
MPa			
Pa			-
LD-			
	ESC	ENT	FER

On the "Temp. Unit" screen, you may select the unit from 4 units [degC, degF, degR, and Kelvin].

<u>₩</u> \/\			X
AT9000:FIC-0001			
Temp. Unit degC			
<mark>degC</mark> degF degR Kelvin			
	ESC	ENT	ER

3.2.3: Device > Sensors

On the "Signal Condition" screen, the settings for 11 items can be checked or changed. The sixth item "Height" will appear only when a remote-sealed type transmitter is used.

+		Q			X
AT90	00:FI	C-0001			
Signal Condition					
1 Lower Range Valu 0.000 kPa 🌌					Pa 🔺
2 Upp	er Ra	nge Valu	10	0.000 kl	Pa 👘
3 Upper Range Limit			9	9.636 kl	Pa 🚽
4 Damping			1.00)s	
5 Transfer Function				Line	ar 💻
6 Height				0.000	m
7 Out	7 Output 0.06 %			%	
8 Con	tact ()	Jutnut Stat Closed			ad 🞽
HEI	LP	SAVE	HOME		

On the "Basic Setup" screen, the settings for 6 items can be checked and changed.

←	\heartsuit			X
AT9000:F	C-0001			
Signal Co	ndition	\mathbb{A}		
5 Transfer 6 Height	Function		Linea	r 🔺
7 Output			0.06 %	6
8 Contact (utput Stat		Closed	1
9 Apply zero value Apply span value Set LRV(Actual)				*
HELP	SAVE	НОМЕ		

Device > Signal Condition > Apply zero value

The "Apply zero value" function is used to set the current input value to LRV. When you tap "Apply zero value", the following WARNING message will appear. Tap "OK" if you want to continue.



Key in the pressure value equivalent to 4 mA and then tap "OK".

<u>H</u> ///			X
AT9000:FIC-0001			
Apply new 4 mA input.			^
			~
	ABORT	0	ĸ
		Ŭ	

When the pressure becomes stable, tap "OK".

<u>म∕</u> ∖∖ AT9000:FIC <i>-</i> 0001			X
Press OK when pressure	is stable		
	ABORT	0	к

The current input value will be displayed. If it is correct, select "Set as 4 mA value" and then tap "ENTER".

If you want to change the input value, change the value. Then, select "Read new value" and tap "ENTER" to check the new input value.

To exit, select "Leave as found" and then tap "ENTER".

\heartsuit			X
AT9000:FIC-0001			
Current applied process	value: 0.060	0 kPa	~
1 Set as 4 mA value 2 Read new value 3 Leave as found.			
	ABORT	ENT	FER

Select "Set as 4 mA value" and then tap "ENTER". The following message will be displayed for a few seconds.

<u>H</u> ///			X
AT9000:FIC-0001			
Remove pressure			~
	ADODT		¥.
	ABORT		

After that, the following NOTE will appear. After confirmation, tap "OK".



"Lower Range Value (0%)" will be the current input value, and "Output" will be 0%.



Device > Signal Condition > Apply span value

The "Apply span value" function is used to set the current input value to URV. The same procedure as the "Apply zero value" function applies, except that the input pressure is set to a value equivalent to 20 mA.

Device > Signal Condition > Set LRV (Actual)

The "Set LRV (Actual)" function is used to set LRV so that the current output value will be the desired value without changing the "span". Tapping "Set LRV (Actual)" will display the following WARNING message. After confirmation, tap "OK".



The following confirmation message will appear. After confirmation, tap "OK".

			X
Confirm current input is	correct		^
			~
	ABORT	0	к

Key in the desired Output value and then tap "ENTER".

<u>₩</u> /// AT9000:FIC-0001																		
Enter output percent for current input (0.00)																		
5	0																	
¥.	q	w	e	r	t	y	u	i	0	р	+		*	1	7	8	9	64-60
Lock	a	s	d	f	g	h	j	k	T		@&	₽	-		4	5	6	FN
shift	z	x	C	v	b	n	m	- 45			áü		+	0	1	2	3	
		DEL				AB	OR	Г		E	п	EF	2					

The confirmation screen will appear. Tap "ENTER" if it is correct.

If you want to change the input value and recalculate "New LRV", select "Read new value" and then tap "Enter".

To exit, select "Leave as found" and then tap "ENTER".

<u>H</u> ///			X
AT9000:FIC-0001			
Enter percent : 50.00 % New LRV : -50.000 kPa			
1 Set new LRV, URV			
2 Read new value			
3 Leave as found			
	ABORT	ENT	ER

The following NOTE will appear. After confirmation, tap "OK".

<u>H</u> /\/	Ê	X
AT9000:FIC-0001		
NOTE-Loop may be returned to auton control	natic	<
		~
	0	к

It can be confirmed that the settings for "Lower Range Value (0%)" and "Upper Range Value (100%)" have changed and that "Output" is the designated value.

t		\heartsuit			X			
АТ90	00:FI	C-0001						
Signal Condition								
1 Lov	ver Ra	nge Valu	-50.000 kPa 🔼					
2 Upp	er Ra	nge Valu	50.000 kPa					
3 Upp	er Ra	nge Limit	99.636 kP a 📄					
4 Dar	nping		1.00 s					
5 Transfer Function				Line	ar 🚽			
6 Height				0.000	m			
7 Out	put			50.00	%			
8 Cor	tact ()	utnut Stat		_ 0n	an 🔛			
HE	LP	SAVE	HOME					

3.2.4: Device > Output Condition

On the "Output Condition" screen, the setting for "Analog Output" can be checked and changed, the setting for "Fail Safe" can be checked, and the setting for "HART Output" can be checked and changed..

÷		<u>H</u> ///			X				
AT9000:FIC-0001									
Outp	ut Co	ndition							
<mark>1 Ana</mark> 2 Fail 3 HAF	log Ou Safe RT Outj	itput put							
		SAVE	HOME						

Device > Output Condition > Analog Output

The "Analog Output" menu consists of 4 menu items.

The "Analog Output" value can be checked, the output limit can be set, and the constant current output can be set.

÷		\heartsuit			X				
АТ90	00:FI	C-0001							
Analo	Analog Output								
1 Ana 2 Out 3 Out 4 Loo	nlog Or put Lo put Hig p Test	utput w Limit gh Limit		4.000 m -2.500 110.000	1 A % %				
HE	LP	SAVE	HOME						

Device > Output Condition > Analog Output > Loop Test

Tapping "Loop Test" will display the following WARNING screen. After confirmation, tap "OK".

$\mathbf{H}' \otimes \mathbf{V}$		X
AT9000:FIC-0001		
WARN-Loop should be removed fron automatic control	1	
		\sim
ABORT	0	к

Select the desired output value and then tap "ENTER".

To manually key in a value, select "Other".

If "4 -> 8-> 12 -> 20 mA" is selected, the value will change in this order.

To exit this screen, select "END" and tap "ENTER". At this time, constant-current source mode will be disabled.



If "4 mA" is selected and "ENTER" is tapped, 4 mA constant-current source mode is entered. The following screen will appear.

To return to the previous screen, tap "OK".

\heartsuit		X
AT9000:FIC-0001		
Fld dev output is fixed at 4.000 mA		~
		~
ABORT	0	к

If "Other" is selected and "ENTER" is tapped, the following entry screen will appear. Key in the desired output value and tap "ENTER".

						H	<u> </u>	V						Γ		וו		X
AT	AT9000:FIC-0001																	
01	Output (4.000 mA)																	
	4	.0	00)														
к »	q	w	e	r	t	y	u	i	0	р	+	5-0) 	*	1	7	8	9	54—60
Lock	a	s	d	f	g	h	j	k	T		@&	₽	-		4	5	6	FN
shift	z	x	С	۷	b	n	m	-8	-		áü		+	0	1	2	3	
	HELP DEL						AB	OR	Г		E	ТИ	FEF	2				

Device > Output Condition > Fail Safe

The setting for "Fail Safe Direction" can be checked and "Failure Alarm Simulation" can be executed.

← AT9000:Fl Fail Safe	<u>₩</u> //\ IC-0001	R	
1 Fail Safe 2 Failure A	Direction Iarm Sim		Downscale
HELP	SAVE	HOME	

The "Fail Safe Simulation" function is used to simulate "Fail Safe" operation.

Tapping "Fail Safe Simulation" will display the following WARNING screen. After confirmation, tap "OK".



The following screen will appear. Tapping "OK" will execute simulated "Fail Safe" operation.



During "Fail Safe Simulation", the following screen is shown.

Wait about 10 minutes, and "Fail Safe Simulation Mode" will be automatically disabled. To enter "Fail Safe Simulation Mode" again, select "Continue Simulation Mode", and then tap "ENTER".

To exit, select "End Simulation Mode", and then tap "ENTER".

<u>₩</u> \/\			X
AT9000:FIC-0001			
Now this device is in Fai Simulation Mode	lure Alarm		~
1 Continue Simulation M 2 End Simulation Mode	ode		
	ABORT	ENT	FER

Device > Output Condition > HART Output

On the "HART Output" screen, "Polling Address" can be set and the setting for "Number of Request Preambles" can be checked.

÷		<u>H</u> ///			X			
AT90	AT9000:FIC-0001							
HAR	Γ Out	put						
1 Pol	ling A	dress			0			
2 Nur	n Req	Preams			5			
HE	LP	SAVE	HOME					

3.2.5: Device > Alarm

←	$\mathbf{H}_{\mathbf{N}}$		X
AT9000:FI	C-0001		
Alarm			
1 Alarm Set 2 Contact 0 3 Contact 0 4 Alarm Sta	tings utput ON/OFI utput Simula tus	F tion Mode	
	SAVE	HOME	

The "Alarm" menu consists of 4 menu items.

Device > Alarm > Alarm Settings

On the "Alarm Settings" menu, "Output Alarm", "Sensor Temperature Alarm", and "Contact Output Mode" can be set.

To enable "Output Alarm", tap "Output Alarm".



Tapping "Output Alarm" will display the following screen. Select an item you want to set. If you want to set "Lower Limit" only, select "Lower Limit" and tap "ENTER". If you want to set "Upper Limit" only, select "Upper Limit" and tap "ENTER". If you want to set both "Lower Limit" and "Upper Limit", select "Lower/Upper Limit" and tap "ENTER".



After changing the setting, tap "SEND" to transmit the setting information. After that, the limit value can be set.



The alarm values that can be changed, "Lower Output Alarm" or/and "Upper Output Alarm", will be displayed. If you want to change any of these values, tap the item you want to change, change the setting, and then transmit the setting information.

+		<u>H</u> ///			X		
AT900	00:FI	C-0001					
Alarm	Set	tings					
1 Out	out Al	arm	Lower/Up	Lower/Upper Limit			
2 Low	er Ou	tput Alarm	0.0 %				
3 Upp	er Ou	tput Alarm	100.0 %				
4 Sen	sor Te	emp. Alarm	1	lo Alai	m		
5 Con	tact 0	utput Mode	Norma	lly Op	en		
HEI	.Р	SAVE	HOME				

The settings for "Sensor Temperature Alarm" can be changed in the same manner.

	<u>H′</u> \/\			X
AT9000:FI	C-0001			
Sensor Te No Alarm	emp. Alarm			
No Alarm Lower Limi Upper Limi Lower/Upp	t t er Limit			
HELP		ESC	ENT	FER

After the setting information is transmitted, values that can be set will be indicated...



After the setting information is transmitted, the following screen will appear.

←	$\underline{\mathbf{H}}$			X		
AT9000:FI	C-0001					
Alarm Sett	tings					
1 Output Al	arm	Lower/Up	per Lin	nit		
2 Lower Ou	tput Alarm	0.0 %				
3 Upper Ou	tput Alarm	100.0 %				
4 Sensor Te	mp. Alarm	Lower/Up	per Lin	nit		
5 Lower Se	nsor Tem	1	40.0 de	gC		
6 Upper Se	nsor Tem	1	35.0 deg	gC		
7 Contact 0	utput Mode	Norm	ally Op	en		
	0.01/5	HOME	1			
HELP	SAVE	HOME				

Tapping "Contact Output Mode" selects "Normally Open" or "Normally Close".

<u>₩</u> /\/ AT9000:FIC-0001 Contact Output Mod Normally Open	e		X
Normally Open Normally Closed			
HELP	ESC	ENT	TER

Device > Alarm > Contact Output ON/OFF

On the "Contact Output ON/OFF" screen, the alarm for "Contact Output" can be selected...



Tapping the item you want to change will display the following screen. To change the setting to ON, tap the "ON" button located at the lower part of the screen, and then tap "ENTER".

To return to the previous screen without changing the setting, tap the "ESC" button.

	Ð	X		
AT9000:FIC	C-0001			
Contact Out	put ON/OFF:	Output Low		^
OFF				
HELP	ON	ESC	EN	FER

To transmit the setting information, tap "SEND" on this screen.



Device > Alarm > Contact Output Simulation Mode

On the "Contact Output Simulation Mode" screen, "Contact Output" can be set to "Open" or "Close" in a simulated (forcible) manner.

t		\mathbf{H}^{\prime}			X					
АТ90	AT9000:FIC-0001									
Cont	act O	utput Sim	ulation Mo	de						
1 Ope	en									
2 Clos	sed									
HE	LP	SAVE	HOME							

Tapping "Open" or "Close" will display the following WARNING screen. After confirmation, tap "OK".

<u>H</u> ///		A	X
AT9000:FIC-0001			
WARN-Loop should be re automatic control	emoved fron	1	
			~
	ABORT	0	к

The following confirmation screen will appear. Tap "OK" if you want to execute the simulation.



During simulation mode, the following screen will appear. If the screen is left unchanged, simulation mode will be automatically disabled after about 10 minutes. To enter simulation mode again, select "Continue Simulation Mode", and then tap "ENTER". To exit simulation mode, select "End Simulation Mode", and then tap "ENTER".

<u>H</u> ///			X		
AT9000:FIC-0001					
Now this device is in simulation closed mode					
1 Continue Simulation M	ode				
2 End Simulation Mode					
	ABORT	ENT	ER		

Device > Alarm > Alarm Status

On the "Alarm Status" screen, the status of the Alarm settings and "Contact Output" can be checked.

←	\heartsuit				
AT9000:F	IC-0001				
Alarm Sta					
1 Output A	larm Low		ON		
2 Output A	larm High		OFF		
3 Sensor	emp. Alar		OFF		
4 Sensor	emp. Alar		OFF		
5 Contact	Output Stat		Closed		
HELP	SAVE	HOME			

3.2.6: Device > Display

The settings for "Display" can be checked and changed.

The menu items displayed differ depending on the setting of "Display Mode".

When "Display Mode" is "%".

← AT9000:Fl¢ Display	<u>₩</u> /\/ _\ c-0001		
1 Display Mode 2 Display Function 3 Transfer Function			% Linear Linear
HELP	SAVE	HOME	

If "Display Function" is set to "Square Root", the square root of the output linear is extracted. The "Disp $\sqrt{}$ " segment will be displayed on the LCD.

Tapping "Display Mode" will display the following setting screen.

Select the item you want to set and tap "ENTER".

<u>₩</u> \/\			X
AT9000:FIC-0001			
Display Mode			
%			
% Pressure			
Scale			
HELP	ESC	ENT	ER

The changed item will be indicated by an asterisk (*). Tap "SEND" to transmit the setting information.

←		<u>H</u> ′∖∖∖			X		
AT9000:FIC-0001							
Displ	Display						
1 *Dis	play N	lode		Pressu	re		
2 Dis	olay Fi	unction		Line	ar		
3 Transfer Function Linear				ar			
шс	п	CEND	номе	1			
HE		SEND	HUME				

When "Display Mode" is set in "Pressure", only "Transfer Function" can be set.

÷		$\underline{\mathbf{H}}$			X
AT9000:FIC-0001					
Displ	ay				
1 Display Mode Pressure					
2 Transfer Function				Line	ar
шс	п	S AVE	номе		
HE		SAVE	HOME		

When "Display Mode" is set in "Scale", more items can be set.

+	\mathbf{H}^{\prime}			X	
AT9000:FIC-0001					
Display					
1 Display Mode Scale 🔼					
2 Display F	unction	Linear			
3 Transfer F	unction	Linear			
4 EULO (0%))		0.00	00	
5 EUHI (100	%)		10.00	00	
6 Disp. Unit		kg/h			
7 User Unit					
	8 Evnonent ¥1				
8 Evnanant			<u>د</u> ،		

←	<u>H′</u> \/\			X
AT9000:FI	C-0001			
Display				
2 Display Fo	unction		Linea	ar 🔼
3 Transfer F	unction		Linea	ar 👝
4 EULO (0%)			0.00	0
5 EUHI (100	%)		10.00	0
6 Disp. Unit			kg/	/h 📕
7 User Unit				
8 Exponent			X	(1 🔜
				×
HELP	SAVE	HOME		

To use a unit not registered in "Disp. Unit" and optionally set in "User Unit", set "Disp. Unit" to "user define unit".

←	<u>₩′</u> \/ _\			X	
AT9000:FIC-0001					
Display	ay				
2 Display F	unction	n Linear			
3 Transfer	Linear 📥				
4 EULO (0%)		0.0	00	
5 EUHI (100	%)		10.0	00	
6 Disp. Uni	t	user de	efine u	nit 👘	
7 User Unit			GPH		
8 Exponen	nent X1			X1 🚽	
HELP	SAVE	HOME			

<u>₩</u> \/\		
A19000:FIC-0001		
Exponent		
X1		
X1		
X10		
X100		
X1000		
	ESC	ENTER

"X10", "X100", or "X1000" can be displayed by setting "Exponent". "X1", if selected, is not displayed.

3.2.7: Device > Device information

On the "Device Information" screen, the following items can be checked and changed.





On the "Revision Number" screen, the following items can be checked.

+		<u>H′</u> \/			X		
AT90	AT9000:FIC-0001						
Revis	Revision Numbers						
1 Uni	versal	Rev			5		
2 Fie	d Dev	ice Rev			1		
3 Sof	tware	Rev			2		
		CAVE	HOME				
HE		SAVE	HOME				

On the "Write Protect" screen, the status of "Hardware Write Protect" and "Software Write Protect" can be checked, and the setting for "Software Write Protect" can be changed.

+	<u>H′</u> \/\		
AT9000:FI	C-0001		
Write Pro	tect		
1 Hardware 2 Software 3 Change S	Write Pr Write Pro W Write		No No
HELP	SAVE	HOME	

On the "Change SW Write Protect" screen, "Yes" or "No" can be selected.

<u>₩</u> ′\/ _\		È	X
AT9000:FIC-0001			
Select write protect mo	de.		~
1 No			
2 Yes			
	ABORT	ENT	FER

On the "Software Version" screen, the Software Version can be checked.

Tapping "Software Version" will display the following screen. Tap "OK" to execute it.



The Software Version will appear. To return the previous screen, tap "OK".

<u>₩</u> //\ AT9000:FIC <i>-</i> 0001			X
Software Version is 1.1			<
	ABORT	0	к

3.2.8: Device > Calibration

The "Calibration" menu consists of 2 menu items, "Correct Input" and "Output Calibration".



Device > Calibration > Correct Input

The "Correct Input" menu consists of 5 menu items.

←	<u>H</u>		X
AT9000:F	IC-0001		
Correct	nput		
1 Zero Tri 2 Correct 3 Correct 4 Reset Co 5 Restore	m Input LRV Input URV orrects factory setting		
HELP	SAVE	HOME	

Device > Calibration > Correct Input > Zero Trim

The "Zero Trim" function is used to calibrate zero point.

Tapping "Zero Trim" will display the following WARNING screen. After confirming the setting, tap "OK".

		X
oved fron	ı	~
ABORT	0	ĸ
	oved from ABORT	oved from

The following WARNING screen will appear. Tap "OK" if there is no problem.

<u>₩</u> \/\			X
AT9000:FIC-0001			
WARN-This will affect se	nsor calibra	tion	~
			\sim
	ABORT	0	к

Key in "0" for the sensor, and then tap "OK".



After the following screen is displayed for a while, the next screen will appear.

<u>H</u> ///		X
AT9000:FIC-0001		
Sensor input stabilizing		~
		~
	ABORT	

After the following screen is displayed for a while, the next screen will appear.

\heartsuit			X
AT9000:FIC-0001			
Sensor zero succeeded			~
		1	\sim
	ABORT		

The "NOTE" screen will appear. After confirmation, tap "OK". The procedure for "Zero Trim" is completed.

<u>₩</u> ′\/,	Ð	X
AT9000:FIC-0001		
NOTE-Loop may be returned to autor control	natic	
		~
	0	к

Device > Calibration > Correct Input > Correct Input LRV

The "Correct Input LRV" function is used to perform calibration by entering the same value as LRV. The basic procedure is the same as that for "Zero Trim".

Device > Calibration > Correct Input > Correct Input URV

The "Correct Input URV" function is used to perform calibration by entering the same value as URV. The basic procedure is the same as that for "Zero Trim".

Device > Calibration > Correct Input > Correct Resets

The "Reset Corrects" function is used to reset the calibrated values to the default values.

Tapping "Reset Corrects" will display the following WARNING screen. After confirmation, tap "OK".

<u>₩</u> \/\	ł	X
AT9000:FIC-0001		
WARN-Loop should be removed fron automatic control	ı	~
		<u>~</u>
ABORT	0	ĸ

Tap "OK" to execute "Reset Corrects".

<u>₩</u> //\ AT9000:FIC-0001			X
About to Reset corrects			<
	ABORT	0	к

After the following screen is displayed for a while, the next screen will appear.

<u>H</u> ///			X
AT9000:FIC-0001			
Reset corrects in progres	ss please wa	nit	~
		4	\sim
	ABORT	6	<u>-</u>

"Reset Corrects" is completed. Tap "OK".

<u>₩</u> ′\/ _\			X
AT9000:FIC-0001			
Reset corrects OK			~
			~
	ABORT	0	к

The following NOTE screen will appear. After confirmation, tap "OK". The procedure for "Reset Corrects" is completed.

$\mathbf{H}' \otimes \mathbf{V}$		X
AT9000:FIC-0001		
NOTE-Loop may be returned to auto control	matic	~
I		
		~
	0	к

Device > Calibration > Correct Input > Reset factory setting

The "Restore factory setting" function is used to reset the calibrated values to the factory settings.

Tapping "Restore factory setting" will display the following WARNING screen. After confirmation, tap "OK".

<u>H</u> ///		È	X
AT9000:FIC-0001			
WARN-Loop should be removed fr automatic control	on	1	~
			~
ABORT		0	к

Tap "OK" to execute "Restore factory setting".

<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u> <u></u> <u></u> <u></u> <u></u>			X
About to restore factory	setting.		~
			~
	ABORT	0	к

Device > Calibration > Output Calibration

The "Output Calibration" menu consists of 2 menu items.

t		\mathbf{H}^{\prime}			X		
AT9000:FIC-0001							
Output Calibration							
1 D/A	trim						
2 Sca	led D/	A Trim					
HE	IP	SAVE	HOME				
111	-	JAVL	HOWL				

Device > Calibration > Output Calibration > D/A trim

The "D/A trim" function is used to calibrate 4 mA and 20 mA outputs. Tapping "D/A trim" will display the following WARNING screen. After confirmation, tap "OK".

<u>H</u> ///			X
AT9000:FIC-0001			
WARN-Loop should be re automatic control	emoved fron	1	
			~
	ABORT	0	к

Connect the reference meter and then tap "OK".

<u>H</u> ′∖∖∖ AT9000:FIC <i>-</i> 0001			×
Connect reference mete	r		
	ABORT	0	ĸ

The device is set to 4 mA output. Tap "OK" if there is no problem.

<u>H</u>			X
AT9000:FIC-0001			
Setting field device outpu	t to 4mA		\wedge
			~
	ABORT	0	ĸ

 \mathbf{H} Х AT9000:FIC-0001 Enter meter value (4.000 mA) 4.000 Esc Q W E R T Y U I O P ← toos A S D F G H J K L / @& shift Z X C V B N M áŭ 1 7 8 9 4 5 6 FN ₽ • + 0 123 ABORT HELP DEL ENTER

Key in the value indicated by the reference meter and then tap "ENTER".

When the value indicated by the reference meter becomes 4 mA, select "Yes" and then tap "ENTER" to complete the procedure.

If the value does not become 4 mA, select "No" and then tap "ENTER" to repeat the procedure.

<u>H</u> '\\		Ð	X
AT9000:FIC-0001			
Field device output 4.000 reference meter?	000mA equa	l to	~
1 Yes			
2 No			
	ABORT	ENT	FER

Next, perform adjustment for 20 mA. Tap "OK" if there is no problem.



Key in the value indicated by the reference meter and then tap "ENTER".

<u>₩</u> /// AT9000:FIC-0001																		
Enter meter value (20.000 mA)																		
Esc	Q	W	E	R	Т	Y	U	I	0	P	+	22	*	1	7	8	9	54—64
Lock	A	s	D	F	G	н	J	κ	L	;	@&	ł	-		4	5	6	FN
shift	z	x	C	۷	В	N	M	-8	-	3	áü		+	0	1	2	3	
	HE	ELF	Р			[)EI	L			AB	OR	Г	ENTER			2	

When the value indicated by the reference meter becomes 20 mA, select "Yes" and then tap "ENTER" to complete the procedure.

If the value does not become 20 mA, select "No" and then tap "ENTER" to repeat the procedure.

<u>H</u> /\/			X
AT9000:FIC-0001			
Field device output 20.00 reference meter?	0000mA equ	al to	<
1 Yes			
2 No			
	ABORT	ENT	ER

When all the procedures are completed, the following NOTE screen will appear. After confirmation, tap "OK".

<u>H′</u> \∕∖ AT9000:FIC <i>-</i> 0001	6		X
NOTE-Loop may be retur control	ned to auto	matic	<
			~
		0	к

Device > Calibration > Output Calibration > Scaled D/A Trim

The "Scaled D/A Trim" function is used to calibrate 4 mA and 20 mA outputs using other units such as 1 V and 5 V.

Tapping "Scaled D/A Trim" will display the following WARNING screen. After confirmation, tap "OK".

<u>₩</u> /\/ _/ AT9000:FIC <i>-</i> 0001	\$		X
WARN-Loop should be rea automatic control	moved fron	1	<
	ABORT	01	×

To perform adjustment with 1_5 V, select "Change scale" and then tap "ENTER" to change the scale.

<u>₩</u> \/\			X
AT9000:FIC-0001			
Trim will be scaled from	4.000 to 20.0	000	~
1 Proceed			<u></u>
2 Change scale			
	ABORT	ENT	FD
	ADUKI	ENI	

Key in "Lo output value" and then tap "ENTER".

АТ	90	00	0:1	FI	c-	H 00	_\ 0^	∿ I)		X
Se	et s	sca	le	- L	0	ou	tpւ	It v	/al	ue	(4.0	0000	000)				< ×
Esc	Q	w	E	R	Т	Y	U	I	0	Р	+		*	1	7	8	9	54—64
Lock	A	s	D	F	G	н	J	к	L	;	@&	ł	-		4	5	6	FN
shift	z	х	C	۷	В	N	М	-2	-		áü	=	+	0	1	2	3	
					DEL					ABORT				ENTER				

AT	90	00):I	FI	с-	H 00	_\ 0	∿ I)		×
Se	et s	sca	le	- H	li o	ut	pu	tv	alı	le	(20.	000	00	0)				< >
Esc	Q	w	E	R	Т	Y	U	I	0	Р	+		*	1	7	8	9	54-5
Lock	A 7	S X	D	F	G	H	J	к	L	;	@& áü	₽	-+	: 0	4	5	6	FN
])EI				AB	0R	Г		E	EN T	EF	2

Next, key in "Hi output value" and then tap "ENTER".

Check that the scale has changed. Then, select "Proceed" and tap "ENTER".

<u>H</u>		Ð	X
AT9000:FIC-0001			
Trim will be scaled from	1.000 to 5.00	00	~
1 Proceed 2 Change scale			
	ABORT	ENT	rer

Connect the reference meter and then tap "OK".

<u>H</u> ///		A	X
AT9000:FIC-0001			
Connect reference meter			~
			~
	ABORT	0	к

Set the reference meter to 4 mA output. Tap "OK" if there is no problem.

<u>H</u>			X
AT9000:FIC-0001			
Setting field device output	ıt to 1.000		~
			<u> </u>
	ABORT	0	ĸ

AT	90	00):I	FI	с-	H 00	_\ 0	∿ I)		X
En	te	r n 1.(ne ⁻	ter 00	va	alu D	le	(1.0	000	000)0)							< >
Esc	Q	W	E	R	Т	Y	U	I	0	P	+	5 - 10	*	1	7	8	9	54—40
Lock	A	s	D	F	G	н	J	κ	L	;	@&	₽	-	:	4	5	6	FN
shift	z	x	C	۷	в	N	M	- 2	2-3		áü		+	0	1	2	3	
					DEL						ABORT				ENTER			

Key in the value indicated by the reference meter and then tap "ENTER".

When the value indicated by the reference meter becomes the set value, select "Yes" and then tap "ENTER" to complete the procedure.

If the value does not become the set value, select "No" and then tap "ENTER" to repeat the procedure.

<u>H′</u> \/\			Х
AT9000:FIC-0001			
Scaled output: 1.000 eq	ual readout o	levice?	~
1 Yes			
2 No			
	ABORT	ENT	ER

Next, perform adjustment for 20 mA. Tap "OK" if there is no problem.



Key in the value indicated by the reference meter and then tap "ENTER".

АТ	90	00	0:I	FI	с-	H 00	_\ 0^	∿ I)		×
En	te	rn 5.(ne1	ter 00	va	alu D	e	(5.0	000	000)0)							< >
Esc	Q	w	E	R	Т	Y	U	I	0	Р	+	5 - 53	*	1	7	8	9	54—4
Lock	A	s	D	F	G	н	J	κ	L	;	@&	₽	-	:	4	5	6	FN
shift	z	x	С	۷	в	N	M	-2	2 - 2		áü		+	0	1	2	3	
					DEL					ABORT				ENTER				

When the value indicated by the reference meter becomes the set value, select "Yes" and then tap "ENTER" to complete the procedure.

If the value does not become the set value, select "No" and then tap "ENTER" to repeat the procedure.

<u>H</u>			X
AT9000:FIC-0001			
Scaled output: 5.000 eq	ual readout d	levice?	~
1 Yes			
2 No			
	ABORT	ENT	FER

After constant-current source mode is disabled, the following NOTE screen will appear. After confirmation, tap "OK". All the procedures are completed.



3.2.9: Device > Review

On the "Review" screen, the major settings can be displayed. These settings cannot be changed on this screen.

←	$\underline{\mathbf{H}}$			X
AT9000:FI	C-0001	Þ		
Review		5		
1 Model			AT9000	^
2 Measuren	nent Type		DP	
3 Transfer F	unction		Linear	
4 Height			0.000 m	
5 PROM No		27	87182100	
6 Software	Rev		2	
7 Damping			1.00 s	_
8 Lower Ra	nao Valu		000 kPa	~
HELP	SAVE	HOME		

←	<u>H′</u> \/\			X
AT9000:FI	C-0001			
Review				
8 Lower Ra	nge Valu	().000 kPa	^
9 Upper Rar	nge Valu	100.000 kPa		
Upper Ran	ge Limit	99.636 kP a		
Fail Safe E)irection	Downscale		
Display Mo	de		Scale	
Disp. Unit		user de	efine unit	
User Unit			GPH	
EIII O (0%)			0 000	$\mathbf{\mathbf{x}}$
HELP	SAVE	HOME		

← AT9000:FI	<u>₩</u> //\ c-0001			X
Review				
EULO (0%)			0.000	>
EUHI (1009	6)	10.0		
Exponent			X1	
Output Lo	w Limit		-2.500 %	
Output H	ıh Limit		110.000 %	
Output Alarm		No Alarm		
Sensor Te	mp. Alarm		No Alarm	
Contact O	utout ON/		4	\sim
HELP	SAVE	HOME		

+		\heartsuit			X
AT9000:FIC-0001					
Review					
Conta Alarn Conta Outp Press Sens	act O n Sta act O act O ut sure or Te	utput ON/ tus utput Mode utput Status mp.	Norma 0. 2	ally Ope Ope 0.00 0000 kF 0.0 deg	en en % Pa jC
HEL	P.	SAVE	HOME		

3.3 : Diagnostic

On the "Diagnostic" screen, the self-diagnostic results are displayed.

"Diagnostic" consists of 3 menu items.



3.3.1: Diagnostic > Diagnostic Status

On the "Diagnostic Status" screen, the current diagnostic results of the device can be checked.

←				X			
AT9000:I	AT9000:FIC-0001						
Diagnost	ic Status						
1 Status 2 Critical 3 Internal 4 Non-Crit	štatus Data Inconsist ical Status	ency					
HELP	SAVE	HOME					

Diagnostic > Diagnostic Status > Status

On the "Status" screen, the diagnostic results currently generated are displayed.

<u>H</u>			X
AT9000:FIC-0001			
STATUS CHECK = OK			~
			~
	ABORT	0	к

Diagnostic > Diagnostic Status > Critical Status

On the "Critical Status" screen, all the "Critical Status" items are displayed. If such status occurs, "ON" is displayed. If not, "OFF" is displayed.

←	\mathbf{H}^{\prime}			X			
AT9000:FIC-0001							
Critical Status Records							
1 Analog/Di	igital Con		OFF	^			
2 Sensor C		0FF					
3 Suspect I	nput		OFF				
4 CPU Fault	t		OFF	≣			
5 NVM Faul	t		OFF				
6 RAM Faul	t		0FF				
7 ROM Faul	0FF	_					
8 Output Ci		OFF	×				
HELP	SAVE	HOME					

←	<u>H′</u> \/\			X	
AT9000:FI	C-0001	\searrow			
Critical St	atus Reco	rds			
2 Sensor Ch	aracteris		0	F 🔼	
3 Suspect I	3 Suspect Input			F 📕	
4 CPU Fault	t		OFF		
5 NVM Faul	t		0	F	
6 RAM Faul	t		0	F	
7 ROM Faul	t		0	F	
8 Output Circuit Fault			0	F	
HELP	SAVE	HOME			

Diagnostic > Diagnostic Status > Internal Data Inconsistency

On the "Internal Data Inconsistency" screen, "Invalid Database" is displayed. If there is any "Invalid Database", "ON" is displayed. If not, "OFF" is displayed.

	\heartsuit			X		
AT9000:FIC-0001						
nal D	ata Incons	istency				
lid Da	itabase		0	FF		
Р	SAVE	HOME				
	DO:FI hal Da lid Da	D0:FIC-0001 nal Data Incons ilid Database	D0:FIC-0001 nal Data Inconsistency lid Database	D0:FIC-0001 nal Data Inconsistency lid Database OI		

Diagnostic > Diagnostic Status > Non-Critical Status

On the "Non-Critical Status" screen, all the "Non-Critical Status" items are displayed. If such status occurs, "ON" is displayed. If not, "OFF" is displayed.



←		\heartsuit				
AT9000:FIC-0001						
Non-Critical Status						
5 Meter Body Overlo 6 Correct Reset 7 External Zero/Span 8 Failure Alarm Sim 9 Contact Output Sim Output Alarm Detec Sensor Temp. Alar			OFF OFF OFF OFF OFF OFF			
HE	LP	SAVE	HOME			

3.3.2: Diagnostic > Status Records

The "Status Records" function is used to store generated self-diagnostic results. This function allows you to check temporary phenomena even after they have been removed.



Diagnostic > Status Records > Clear status records

This function is used to clear the stored self-diagnostic results.

Diagnostic > Status Records > Critical Status Records

On the "Critical Status Records" screen, all "Critical Status" items are displayed. If there is any occurrence record, "ON" is displayed. If not, "OFF" is displayed.

←	<u>H′</u> \/√			K		
AT9000:F						
Critical Status Records						
1 Analog/D	igital Con		OFF	^		
2 Sensor C		OFF				
3 Suspect	3 Suspect Input					
4 CPU Fau	t		0FF	≣		
5 NVM Fau	lt		0FF			
6 RAM Fau	lt		OFF			
7 ROM Fau	OFF					
8 Outsut C	OFF	×				
HELP	SAVE	HOME				

-		<u>H′</u> \/			X	
AT9000:FIC-0001 🛛 🖓						
Critical Status Records						
2 Sen	sor C		0	FF 🔼		
3 Sus	3 Suspect Input			OFF		
4 CPU	4 CPU Fault			0	FF	
5 NVI	/ Faul	t		0	F	
6 RAI	/ Faul	t		0	F 📕	
7 R0	ll Faul	t		0	FF	
8 Output Circuit Fault				0	FF 🚽	
HE	LP	SAVE	HOME			

Diagnostic > Status Records > Internal Data Inconsistency Records

On the "Internal Data Inconsistency Records" screen, all "Invalid Database" items are displayed. If there is any occurrence record, "ON" is displayed. If not, "OFF" is displayed.

←	<u>H′</u> \/			X			
AT9000:FIC-0001							
Internal D	ata Incons	istency Re	cord	s 🗟 _			
1 Invalid Da	ntabase		0	FF			
	S AVE	номе					
HELP	SAVE	HOME					

Diagnostic > Status Records > Non-Critical Status Records

On the "Non-Critical Status Records" screen, all "Non-Critical Status" items are displayed. If there is any occurrence record, "ON" is displayed. If not, "OFF" is displayed.



←	\mathbf{H}^{\prime}			X
AT9000:FIC-0001				
Non-Criti	cal Status I	Records		
2 Excess Zero Correct			OFF 🔼	
3 Excess Span Correct			OFF	
4 Meter Body Overlo			OFF	
5 Correct Reset			0	FF
6 External Zero/Span			0	FF 📕
7 Output Alarm Dete			OFF	
8 Sensor Temp. Alar 0FF 🚽				
HELP	SAVE	HOME		

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