azbil

No. CP-SP-1452E

User's Manual for Setup Tool Model H3Z-DTM- _ _ for Adjustable Proximity Sensor Model H3C-H



Thank you for purchasing your Azbil Corporation product.

This manual contains information for ensuring the safe and correct use of the product.

Those designing or maintaining equipment that uses this product should first read and understand this manual. This manual contains information not only for installation, but also for maintenance, troubleshooting, etc. Be sure to keep it nearby for handy reference.

Azbil Corporation

IMPORTANT

Close the application before disconnecting the IO-Link USB master from the PC or the proximity sensor.

NOTICE

Please make sure that this manual is available to the user of the product.

Unauthorized duplication of this user's manual in part or in whole is forbidden. The information and specifications in this manual are subject to change without notice.

Considerable effort has been made to ensure that this manual is complete and accurate, but if you should find an omission or error, please contact us.

In no event is Azbil Corporation liable to anyone for any indirect, special, or consequential damages as a result of using this product.

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Conventions Used in This Manual

■ In describing the product, this manual uses the icons and conventions listed below.

! Handling Precautions	:	Information to be aware of when handling.
Note	:	Indicates information that may be useful.
	:	Indicates an item or page to which the user may refer.
(1), (2), (3)	:	Steps in a sequence or parts of a figure, etc.
"Switchpoint logic," "Teaching method selection tabs"	:	Indicates a message, a general term for menu items, settings, etc., shown on the screen of the PC.
[PACTware 5.0], [Next] button	:	Square brackets indicate a window name, button, or menu shown on the screen of the PC.
$[View] \rightarrow [Project]$:	Indicates the sequence to follow when selecting an item from a menu on the PC.
»	:	Indicates the result of an operation, or the status after the operation.

The Role of This Manual

There are two different manuals related to model H3C. Read them as necessary for your specific requirements.

If you do not have a manual you require, please contact us or one of our dealers.



User's Manual for Setup Tool Model H3Z-DTM-__ for Adjustable Proximity Sensor Model H3C Document No. CP-SP-1452E

This manual.

The method of setting up the adjustable proximity sensor is explained.



Adjustable Proximity Sensor Model H3C-H_ __M-C_ _1 User's Manual Document No. CP-UM-5959JE

This manual is supplied with the adjustable proximity sensor.

Product specifications, handling precautions, and IO-Link parameters are described.

Organization of the Manual

This manual is organized as shown below.

Chapter 1. What To Know Before Use

Please read through this chapter before using the software.

Chapter 2. Environment Setup and Installation Procedure

Describes the installation method for the software and the setup functions/ mode/method for the sensor.

Chapter 3. Operation Methods

Describes software startup, the layout of the initial screen, and the operation of each setting mode/method.

Chapter 4. Validation of Settings

Tells how to validate settings, acquire data, and exit the software.

Chapter 5. Using the Proximity Sensor after Downloading the Settings

Tells how to use the adjustable proximity sensor after downloading settings.

Chapter 6. Troubleshooting

Tells how to solve problems that might arise.

Terminology

Term	Meaning	Description
Detection level	_	A physical quantity that changes depending on the distance between the H3C and a metal target object
BDC	Binary Data Channel	Output line
		The H3C has two outputs: terminal C/Q is for BDC1 and terminal DO is for BDC2.
SetP.	Set Point	A set point (operation threshold)
S1, S2	Set Point 1	S1: the first set point, S2: the second set point
	Set Point 2	
Teaching	_	The operation of teaching a set point to the sensor based on the detection level (TP), which can be measured by moving a workpiece
ТР	Teach Point	The detection level that is stored during teaching
		One or multiple teach points can be specified.
T1, T2, T3, T4	Teach Point 1	The detection level stored by teaching
	Teach Point 2	
	Teach Point 3	
	Teach Point 4	
N.O. (Normally Open)	Switchpoint logic	BDC is OFF when there is no target.
N.C. (Normally Closed)	Switchpoint logic	BDC is ON when there is no target.
RATE	Teaching rate (%)	Specify the ratio of the set point to the teach point (setting range: 10 to 200 %). This function is available for the Single Value Teach method only.
Standard mode	_	Provides teaching methods in which a set point is specified for each output (BDC1, BDC2) independently
Combination mode	_	Provides teaching methods in which set points are specified for both outputs (BDC1, BDC2) at once by relating the outputs
FDT	Field Device Tool	The interface of field devices specified by the FDT-JIG
FDT frame	_	Software conforming to the FDT.
		Provides a common execution environment and graphical user interface for the DTM.
DTM	Device Type Manager	FDT-compliant software
		Plays the role of a device driver.
IO-Link	—	The communication standard for sensors and actuators
		IEC 61131-9
IO-Link communication mode	_	The status in which an IO-Link-compatible device is communicating using IO-Link
Standard I/O mode		The status in which an IO-Link-compatible device is not communicating using IO-Link
		Terminal C/Q operates as BDC1.
Operation mode		Determined based on set points (S1, S2) and output status.
		There are single point mode, two point mode, and window mode.

The terms used in this manual and on the screen are explained below.

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Chapter 1. What To Know Before Use

Overview

The adjustable proximity sensor is equipped with two outputs whose operating point and operation mode can be changed. Settings for the two outputs can be specified using this setup tool (H3Z-DTM-__).There are two setting modes, standard mode and combination mode, and eight teaching methods.When used in standard I/O mode, the sensor with stored settings can be used with a conventional PLC. The sensor can also be used in IO-Link communication mode.

What you can do with this setup tool

• [Setting] page

• Setting ON/OFF points for the two outputs

A point at which an output turns on or off is defined as a set point.

There are two modes (listed below) for specifying set points. In either mode, the sensor can be set up efficiently by selecting the appropriate teaching method according to the purpose of use and application.

Standard mode

This mode specifies set points for two outputs (BDC1, BDC2) independently. There are five teaching methods in standard mode.

Combination mode

This mode specifies set points for two outputs (BDC1, BDC2) at once by relating these outputs. There are three teaching methods in combination mode.

• Switchpoint logic

The switchpoint logic for two outputs (BDC1, BDC2) can be selected from Normally Open (N.O.) and Normally Closed (N.C.).

Specifying set points

There are three ways to specify set points.

• Teaching

This method specifies set points based on the detection level of the workpiece. The detection level varies depending on the distance from the sensor to the target object, and the object's size, material, and shape. This document mainly explains the teaching method.

• Using the slide bar

The Set P. value can be directly changed by using [], [>], or [>>] on the slide bar.

• Direct entry

The Set P. value can be directly entered.



[Observation] page

Validation of settings

The validity of settings can be checked using either one of the two functions below. Measurement

Check the relationship between the saved settings and changes in the detection level when the workpiece is moved.

Trend

Use the trend data to check the relationship between the saved settings and changes in the detection level when the workpiece is moved. The trend data can be saved to a file in CSV format.

Setting modes and teaching methods

There are two setting modes: standard mode and combination mode.

• Standard mode

Specifies set points for each output (BDC1, BDC2) independently. There are five teaching methods.

- Single Value Teach: The set point is set using the specified rate. T1 is multiplied by [RATE] (teaching rate (%)), and the resulting value is set as set point S1 for BDC_.
- Two Value Teach: The set point is set halfway between two teach points. Set point S1 for BDC_ is set halfway between T1 and T2.
- Dynamic Teach: The set point is determined based on the range of workpiece movement.

Set point S1 for BDC_ is set halfway between the maximum and minimum detection levels measured by teaching.

- Two Point: This allows the output hysteresis to be increased. S1 is set to T1, at which BDC_ output turns on, and S2 is set to T2, at which the output turns off. (The hysteresis is the difference between S1 and S2.)
- Window Mode: The output window can be specified. S1 is set to T1, at which BDC_ output turns on, and S2 is set to T2, at which the output turns off. The output window is the period between S1 and S2.

Teaching method	Output operation (Switchpoint logic: N.O.)							
Single Value Teach	T1V							
	ΔS1							
Two Value Teach	T1▼							
	ΔS1							
Dynamic Teach								
	ΔS1							
Two Point	T1♥ T2♥							
	▲S1 ▼S2							
Window Mode	T1V T2V							
	AS1S2							

• Combination mode

Specifies set points for both outputs (BDC1, BDC2) at once by relating the outputs. There are three teaching methods.

• 2-Point Operate: Setting for identifying two areas

Set point S1 for BDC1 and BDC2 is set halfway between T1 and T2.

• 3-Point Operate: Setting for identifying three areas

Set point S1 for BDC1 is set halfway between T1 and T2.

Set point S1 for BDC2 is set halfway between T2 and T3.

• 4-Point Operate: Setting for identifying four areas

Set point S1 for BDC1 is set halfway between T1 and T2.

Set point S1 for BDC2 is set halfway between T2 and T3.

Set point S2 for BDC1 is set halfway between T3 and T4.

Teach meth	ing od	Switchpoint logic	Output operation											
2-Point				T1				7 T2						
Operate	BDC1	N.O.			S1/	2								
	BDC2	N.C.												
					S1/	2								
3-Point								772						
Operate	BDC1	N.O.	V 11				12			 13				
	BDC2	N.C.			S1/	2								
									S1/	2				
4-Point								TO						
Operate	BDC1	N.O.		VII				12			13		14	
	BDC2	N.C.			S1/	7					S2/	4		
									S1∠	2				

Marks on the settings screen

When specifying parameters on the settings screen, the icons shown below may appear on the screen. Meaning of the icons:

• Pencil: 🖊

Indicates that there is a discrepancy in the values in the DTM and the H3C-H.

Exclamation mark:

Indicates that the specified value is abnormal.

There are three positions where the icons may be displayed: next to a parameter, next to the name of the page in the navigation area, and on the status bar.

The navigation area is a window for switching DTM pages. If an icon marks an item on a page, the icon will also be displayed next to the page name.

The status bar displays icons for indicating the status of the DTM. If an icon marks an item anywhere in the DTM, the icon will also be displayed in the status bar.



The parameter was changed.

The [Setting] page includes an abnormal value. The DTM includes an abnormal value. The parameter value is abnormal.

Notes on specifying set points

A typical example for the detection level when the workpiece comes directly toward the sensing surface is shown below for each model.

Model H3C-HB02M-CP31 (M8): Standard target (iron) 8 × 8 mm, thickness: 1 mm



• Model H3C-HC03M-CP31 (M12): Standard target (iron) 12 × 12 mm, thickness: 1 mm



Set point upper limit

Setting the Set P. to a value smaller than "DL_X – 200" (DL_X: detection level without a workpiece) is recommended.

Set point lower limit

If the sensor is used for detecting contact with the workpiece (e.g., seating detection), setting the Set P. to a value greater than " $DL_X' + 100$ " (DL_X' : detection level when the workpiece is in close contact with the sensor) is recommended.

! Handling Precautions

 After setup, carefully check the influence of temperature characteristics and hysteresis before use.

Chapter 2. Environment Setup and Installation Procedure

Devices required for tuning

The following system environment is required to use this software.

Details	
Model H3C-HB02M-C1	
Model H3C-HC03M-C1	
Recommended product:	
Made by Hans Turck GmbH & Co. KG*	TI 32 manager
Model USB-2-IOL-0002	
No recommendation	
C • Hardware devices	
	Details Model H3C-HB02M-C1 Model H3C-HC03M-C1 Recommended product: Made by Hans Turck GmbH & Co. KG* Model USB-2-IOL-0002 No recommendation

*For details, please contact the Component Product Department of Azbil Trading Co., Ltd. (at-iolink@azbil.com).

Hardware devices

ltem			Description		
PC	CPU		2.5 GHz or higher		
	Main memory		8 GB or more		
	Free storag	e space	9.6 MB (space required for DTM only)		
	Operating system		Windows 10 Professional (Japanese or English version)		
Peripheral	Display	Resolution	Full HD (1920 × 1080)		
devices		Display color	8-bit RGB or higher		
	USB port		1 port or more		

This software has been confirmed to operate in the following environment.

PC model name	Dynabook R73/H
PC model No.	PR73HEL4447AD11
CPU	Intel Core i5-7200 2.5 GHz
Memory	8 GB
SSD	256 GB
Display	1920 × 1080, 24-bit RGB

Related Software Requirements

The following applications are required to use this software.

- .NET Framework 3.5 SP1
- Microsoft Chart Controls 3.5 SP1

This application is bundled with the DTM installer.

Environment setup for the setup tool

The DTM for this setup tool (H3Z-DTM-__) is software that operates in the FDT frame.

Also, in order to operate an IO-Link USB master from the FDT frame, the DTM for the IO-Link USB master is required. Install the FDT frame and the IO-Link USB master DTM in advance.

FDT frame: PACTware 5.0	Device driver: IO-Link US	SB master DTM	Setup tool DTM	
Ļ				
PACTware			-	
File Edit View Project Dev	ice Extras Window Help			
i 🗅 🧉 🔚 🎒 🎰 i 😫 🍋 i	🗖 🕸 🕸 🕸 🎕 🌆 🚺		¥	
Project	4 × MIH3C-H # Identify			🛛 🗠 🗙 🗖
Device tag	H3C-HC03M-C0	11		
□ 🛱 IO-Link USB Master 2.0 🖌 -+	Inductive Proxim	ity	az	bil 📱
— 🎹 нзс-н 📝 🕂	Cha			talog
	Device Information	Vendor Name	Azbil Corporation	
	Setting	Vendor Text	human-centered automation	
	Observation	Product Name	H3C-HC03M-C011	
	Service	Product ID	H3C-HC03M-C011	
		Product Text	Inductive Proximity Sensor()	
		Serial Number	2004090010	
		HW Revision	NA	
		FW Revision	0.0.3	
		App Tag		
	> Connected U	vice	Planning Engineer	
NONAME>	Administrator			.::

Required software

• FDT frame

PACTware 5.0 (made by Hans Turck GmbH & Co. KG, FDT frame for device setting)

• DTM for IO-Link USB master

DTM for USB-2-IOL-0002 (made by Hans Turck GmbH & Co. KG, DTM for IO-Link USB master)

The installation manual and software can be downloaded from the IO-Link product site of the Hans Turck GmbH & Co.KG, website.

- PACTware 5.0
 http://pdb2.turck.de/en/en/products/0000001400009bee0007003a
- DTM for IO-LINK USB master https://www.turck.de/en/product/00000010003b3800003003a

Installation procedure

• Downloading the installer

The installer can be downloaded from Azbil Corporation website. https://www.azbil.com/products/factory/factory-product/switch-sensor/proximity-switch/index.html

This is the free version of the software. Please read the software license agreement carefully before installation.

Installation procedure

- (1) First, download the installer. From the Compo Club menu indicated above, click the file you wish to download and accept the software license agreement.
- (2) Click the [Save] button to save the file.
- (3) Click the [Open] button to unzip the file.
- (4) Double-click the following installation file: setup_H3Z-DTM-00.exe

 \gg >>The setup wizard opens.



- (5) Select[AGREE] and click the [Next] button.
 - \gg The following screen is displayed.

Contract Setup - H3Z-DTM	-		×
Select Destination Location Where should H3Z-DTM be installed?			
Setup will install H3Z-DTM into the following folder.			
To continue, click Next. If you would like to select a different folder,	click B	rowse.	
C:\Program Files (x86)\Azbil Corporation\DTMs\IO-Link\H3Z-DTM	1	B <u>r</u> owse	
At least 7.9 MB of free disk space is required.			
< <u>B</u> ack <u>N</u> ext	:>	Ca	ncel



• Click the [Browse] button if you wish to change the destination folder.

- (6) Click the [Next] button.
 - \gg The following screen is displayed.

C Setup - H3Z-DTM	_		×
Select Start Menu Folder Where should Setup place the program's shortcuts?			
Setup will create the program's shortcuts in the following S	tart Men	u folder.	
To continue, click Next. If you would like to select a different folder,	click Bro	wse.	
Azbil Corporation \DTMs \IO-Link \H3Z-DTM	Bŗ	owse	
< <u>B</u> ack <u>N</u> ex	t>	Car	ncel

Note Note

- Click the [Browse] button if you wish to change the shortcut folder.
- (7) Click the [Next] button.

 \gg The following screen is displayed.

Ketup - H3Z-DTM	_		×
Ready to Install Setup is now ready to begin installing H3Z-DTM on your computer.			Ð
Click Install to continue with the installation, or click Back if you wa change any settings.	nt to revi	ew or	
Destination location: C: \Program Files (x86)\Azbil Corporation\DTMs\IO-Link\H3Z-D Start Menu folder: Azbil Corporation\DTMs\IO-Link\H3Z-DTM	тм	/	
<	nstall	Ca	ncel

- (8) Click the [Install] button.
 - The installer for Microsoft Chart Controls for .NET Framework 3.5 will start. Installation of this software is required to use the trend function of the DTM.

Software Update Microsoft Chart Controls for Microsoft .NET Framework 3.5 Installati	×
Welcome to the Microsoft Chart Controls for Microsoft .NET Framework 3.5 software update.	
Products affected by the software update:	
Microsoft .NET Framework 3.5 SP1	
Get more information about this update.	

- (9) Click the [Next] button.
 - \gg The following screen is displayed.

Microsoft Software License Terms Please accept the license terms to continue	e.
PLEASE NOTE: Microsoft Corporation	(or based on where you live, one of
its affiliates) licenses this supplement t	to you. You may use a copy of this
supplement with each validly licensed	copy of Microsoft Windows operating
system software (for which this supple	ement is applicable) (the
"software"). You may not use the supp	plement if you do not have a license
for the software. The license terms fo	or the software apply to your use of
this supplement. Microsoft provides su	upport services for the supplement as
described at <u>www.support.microsoft.co</u>	<u>om/common/international.aspx</u> .
system software (for which this supple	ement is applicable) (the
"software"). You may not use the supple	plement if you do not have a license
for the software. The license terms for	or the software apply to your use of
this supplement. Microsoft provides su	upport services for the supplement as
described at <u>www.support.microsoft.co</u>	om/common/international.aspx.

- (10) Select [AGREE] and click the [Next] button.
 - \gg The following screen is displayed.



- (11) Click the [Finish] button.
 - \gg The following screen is displayed.

때 Setup - H3Z-DTM	- 🗆 X
	Completing the H3Z-DTM Setup Wizard
	Setup has finished installing H3Z-DTM on your computer. The application may be launched by selecting the installed shortcuts.
	Click Finish to exit Setup.
均	
	Einish

- (12) Click the [Finish] button.
 - \gg The setup wizard closes after successful installation.

Chapter 3. Operation Methods

3-1 Starting the Setup Tool (Model H3Z-DTM-__)

Connecting devices

Plug the adjustable proximity sensor's M12 connector into the IO-Link USB master's M12 connector.

Then, connect the IO-Link USB master to the PC with a USB cable.



Starting the FDT frame

(1) Click [PACTware 5.0].

名前	更新日時	種類	サイズ	
Manuals	2019/11/28 11:36	ファイル フォルダー		
PACTware 5.0	2019/11/28 11:36	ショートカット		3 KB
PACTware DC 5.0	2019/11/28 11:36	ショートカット		3 KB
👭 Uninstall PACTware 5.0	2019/11/28 11:36	ショートカット		1 KB

If the following message is displayed at startup, click the [Yes] button.



(2) PACTware 5.0 will start.



• Updating the data displayed on the Device catalog screen

(1) Check if the Project screen is displayed. If the Project screen is not displayed, select [View] \rightarrow [Project] from the menu.

 \gg The Project screen is displayed.

(2) Click the [Device catalog] button on the upper right of the screen. If the button is not displayed, select [View] → [Device catalog] from the menu.

 \gg The Device catalog screen is displayed.

(3) Click the [Update device catalog] button at the bottom of the screen.

 \gg The following screen is displayed.



- (4) Click the [Yes] button.
 - » "PACTware action Active. One moment please." is displayed. Update is now complete.



• If there are no changes in the DTM, it is not necessary to update the device catalog. Update the device catalog when the DTM is installed, uninstalled, or reinstalled.

• Connecting the IO-Link USB master

- (1) Double-click [IO-Link USB Master 2.0] on the Device catalog screen.
 - >> [IO-Link USB Master 2.0] is added to the HOST PC field on the Project screen. If the Project screen is not displayed, click the button.

Project					₽ ×
Device tag	0	<u>)</u>	36	Channel	
📕 HOST PC					
हि IO-Link USB Master 2.0	1	-†-			

- (2) Click the 🕸 button on the toolbar.
 - \gg IO-Link USB Master 2.0 is connected.

🔜 HOST PC				
🛱 IO-Link USB Master 2.0	Ϊ	- †- (-⊅=)

Note

• To check information on the IO-Link USB master, double-click [IO-Link USB Master 2.0].

• Connecting the model H3C-H adjustable proximity sensor

- (1) Double-click [H3C-H] on the Device catalog screen.
 - \gg [H3C-H] is added to the HOST PC field on the Project screen.

Project				† ×
Device tag	0	<u> ()</u>	36	Channel
B HOST PC				
日 🛱 IO-Link USB Master 2.0	∕	-†-	-D-	
Ш НЗС-Н	I	÷	3 D	Channel_Id_IOLink

- (2) Click the toolbar.
 - >> This will connect the IO-Link USB Master 2.0 to the H3C-H, and the DTM will now be connected to the H3C-H.

Project				4 ×
Device tag	0	<u>)</u>	36	Channel
📕 HOST PC				
📮 🛱 IO-Link USB Master 2.0	∕	-1-	=0=	
📖 🔟 НЗС-Н	1	+	-0 -	Channel_Id_IOLink

(3) The green LED on the adjustable proximity sensor blinks.

3-2 Initial Screen Layout

Opening the initial screen

To open the initial screen of the H3C-H,

double-click [Project] \rightarrow [HOST PC] \rightarrow [H3C-H].

The following setup tool screen is displayed.

HBC-HOUSM-CUIT inductive Proximity (E) (F) (G) Device Information (A) Settine (B) Observation (C) Service (D) Vendor Name Azbit Corporation Vendor Text numan-centered automation Product ID HBC-HO03M-C011 Product ID HBC-HO03M-C011 Product ID HBC-HO03M-C011 Product Text Inductive Proximity Sensor(f Serial Number 2004090010 HW Revision NA FW Revision 0.0.3 App Tag ****	H3C-H # Identify			4 ⊳
Device Information (A) Vendor Name Azbil Corporation Settine (B) Vendor Text human-centered automation Observation (C) Product Name H3C-HC03M-C011 Service (D) H3C-HC03M-C011 Product ID Product ID H3C-HC03M-C011 Product ID Product ID H3C-HC03M-C011 Product IC Serial Number 2004090010 HW Revision HW Revision NA FW Revision FW Revision 0.0.3 App Tag	H3C-HCU3M-CU11 Inductive Proximity (F) (F) (G)			azbil
Device Information (A) Vendor Name Azbil Corporation Setting (B) Vendor Text human-centered automation Observation (C) Product Name H3C-HC03M-C011 Service (D) Product ID H3C-HC03M-C011 Product Text Inductive Proximity Sensor(f) Serial Number 2004090010 HW Revision NA FW Revision 0.0.3 App Tag ****				
App Tae ****	Setting (B) Observation (C) Service (D)	Vendor Name Vendor Text Product Name Product ID Product Text Serial Number HW Revision FW Revision	Azbil Corporation human-centered automation H8C-HC03M-C011 H3C-HC03M-C011 Inductive Proximity Sensor(1 2004090010 NA 0.0.3	
		App Tag	****	

(A)	Device Information	Displays information about the connected H3C-H proximity sensor.
(B)	Setting	Displays the screen for setting the H3C-H proximity sensor.
(C)	Observation	Displays the screen for checking settings.
(D)	Service	Displays IO-Link information.
(E)	Screen switching buttons	Changes the fields to be displayed.
(F)	Upload button	Reads settings from the sensor.
(G)	Download button	Writes settings to the sensor.
(H)	Status	Displays the sensor's status.

🕅 Note

- To expand the settings field, click the button. The Inductive Proximity field is hidden and the settings field expands. To restore the original screen layout, click the button again.
- To hide the Project screen, click the button on the toolbar. To display the screen, click the button again.

3-3 Setup In Standard Mode

Standard Mode screen layout

Opening the setting screen

To open the screen for setting the H3C-H, click [Setting].

The following screen (in a full screen view) is displayed.

The Standard Mode screen is divided into two fields: one for BDC1 and the other for BDC2. The displayed items are the same.



(A)	Detection Level	Indicates the detection level of the proximity sensor for the workpiece.
(B)	min. range	The lower limit of the detection level can be selected from the pull-down menu.
(C)	max. range	The upper limit of the detection level can be selected from the pull-down menu.
(D)	Teach-in_	Buttons to input the detection level First input point: T1 Second input point: T2
(E)	SetP. S1	Indicates the first set point. [S2] indicates the second set point.

Data Upload and Download

The setup procedure is completed by downloading the settings to the sensor. Be sure to download the data.

• Downloading settings to the sensor

After specifying all necessary items, click the button at the top left of the screen.

The \checkmark icon disappears and data writing is complete. \checkmark Marks on the settings screen(5Page)(for details on the \checkmark icon)

Uploading settings from the sensor

The settings saved in the sensor can be uploaded to the DTM.

Click the button at the top left of the screen.

! Handling Precautions

 Do not disconnect the sensor from the IO-Link USB master during an upload/ download.

Setting of an unused output (BDC1 or BDC2)

If either output BDC1 or BDC2 is not used, turn off the unused output using the follow procedure.

How to turn off BDC1 or BDC2

On the Standard Mode screen, there are teaching method selection tabs for BDC1 and for BDC2. Specify the settings separately.

- (1) Select [Setting] \rightarrow [Standard Mode] tab \rightarrow [Deactivate] tab.
 - \gg The following screen is displayed.

Standard Mode Com	bination Mode				
BDC1 V Detect	ion Level 3234				
Single Value Teach	Two Value Teach	Dynamic Teach	Two Point	Window	Deactivate
	v min. range		4095	v max.range	Deactivate NO (Normally Open) ~

- (2) To turn the output off, select [NO (Normally Open)] from the pull-down menu for the switchpoint logic. The output indicator displayed on the above screen turns off.
- (3) Download the settings to the sensor.

Note

• Data Upload and Download(19Page) (for details about downloading to the sensor)

• To turn the output on, select [NC (Normally Close)] from the pull-down menu for the switchpoint logic. The output indicator displayed on the above screen turns on (lit orange or green).

Setup using Single Value Teach

Single Value Teach is a function for setting a set point by multiplying the T1 value by the specified rate.

The influence from nearby metal can be canceled by setting the [Rate] (teaching rate (%)).

Procedure

Select [Setting] \rightarrow [Standard Mode] tab \rightarrow [Single Value Teach] tab. The following screen is displayed (for BDC1).

	4 ▷ 🗙
Standard Mode Combination Mode	
BDC1 ▼ Detection Level 3232 Single Value Teach Two Value Teach Dynamic Tea	ch Two Point Window Deactivate
0 v min. range	4095 v max.range
	Single Point NO (Normally Open) ~ > SetP.S1
◆ Teaching Rate T1 1057 100 Teach-in 1	☐ Hide Slidebar
	Standard Mode Combination Mode BDC1 Detection Level 3232 Single Value Teach Two Value Teach Dynamic Team 0 min. range 0 min. range 0 FF CFF CFF CFF CFF CFF CFF CFF

- Setting using the teaching function
 - (1) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
 - (2) Place the workpiece, nearby metal objects, etc., in their typical positions and click the [Teach-in 1] button. A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
 - (3) Download the settings to the sensor.



• C Data Upload and Download(19Page) (for details about downloading to the sensor)

• Canceling the influence from nearby metal without using a workpiece

Without a workpiece, the set point is set by multiplying the detection level by the [Rate] (teaching rate (%)).

- (1) Do the following without a workpiece.
- (2) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
- (3) Change the [Rate] value from "100" to "80–90"* and click the [Teach-in 1] button. A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
 - * The recommended value is 80 to 90 % of the detection level without a workpiece, but check whether the sensor operates reliably before finalizing the value.
- (4) Download the settings to the sensor.

Note

• Data Upload and Download(19Page) (for details about downloading to the sensor)

• Canceling the influence from nearby metal using a workpiece

Place the workpiece at the detection position and set the set point by multiplying the detection level by the [Rate] (teaching rate (%)).

- (1) Place the workpiece at the detection position.
- (2) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
- (3) Change the [Rate] value from "100" to "110–120"* and click the [Teach-in 1] button. A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
 - * The recommended value is 110 to 120 % of the detection level with a workpiece, but check whether the sensor operates reliably at the operating points before finalizing the value.
- (4) Download the settings to the sensor.

🕅 Note

• 💭 • Data Upload and Download(19Page) (for details about downloading to the sensor)

Setup using Two Value Teach

Two Value Teach

Two Value Teach is a function for setting the set point to a value halfway between two teach points.

Procedure

(1) Select [Setting] \rightarrow [Standard Mode] tab \rightarrow [Two Value Teach] tab.

IIII H3C-H # Identify	4 ▷ ×
Device Information	Standard Mode Combination Mode
- 🖌 Setting	BDC1 ▼ Detection Level 3243 Single Value Teach Two Value Teach Dynamic Teach Two Point Window Deactivate
Observation	0 v min. range 4095 v max. range
Service	ON Single Point NO (Normally Open) V
	Image: Comparison of the second sec
	☐ Hide Slidebar
	✓ Teaching T1 1057 T2 2255 Teach-in 1 Teach-in 2 Teach-in 2 Teach-in 2

 \gg The following screen is displayed (for BDC1).

- (2) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
- (3) Place the workpiece at the 1st position (for T1) and click the [Teach-in 1] button. The detection level at the 1st position is displayed in the T1 field.
- (4) Place the workpiece at the 2nd position (for T2) and click the [Teach-in 2] button. The detection level at the 2nd position is displayed in the T2 field. A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
- (5) Download the settings to the sensor.

🕅 Note

• C • Data Upload and Download(19Page) (for details about downloading to the sensor)

Setup using Dynamic Teach

Dynamic Teach

Dynamic Teach is a function for measuring the maximum and minimum detection levels during teaching and setting the set point halfway between the levels.

Procedure

(1) Select [Setting] \rightarrow [Standard Mode] tab \rightarrow [Dynamic Teach] tab.

	I3C-H # Identify		
	Device Information	Standard Mode Combination Mode	
	Setting	BDC1 Detection Level 482	
	Observation	Single Value Teach Two Value Teach Dynamic Teach Two Point Window	Deactivate
	Observation	U V min. range 4095 max. range	
I	Service		Single Point
			NO (Normally Open) 🗸
			SetP.S1 1631
			L
		V Teaching	bar
		T1 1057 T9 2255	
		Teach Start Teach End	

 \gg The following screen is displayed (for BDC1).

- (2) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
- (3) Click the [Teach Start] button and move the workpiece.
- (4) Click the [Teach End] button. The minimum detection level measured after clicking the [Teach Start] button is shown in the T1 field, and the maximum detection level is shown in the T2 field. A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
- (5) Download the settings to the sensor.

Note

• C • Data Upload and Download(19Page) (for details about downloading to the sensor)

Setup using Two Point Two Point

Two Point is a function for increasing the output ON/OFF hysteresis.

Procedure

(1) Select [Setting] \rightarrow [Standard Mode] tab \rightarrow [Two Point] tab.

 I3C-H # Identify							↓ ▶ ×
Device Information	Standard Mode Comb	ination Mode					
 Setting	Single Value Teach	Two Value Teach	Dynamic Teach	Two Point	Window	Deactivate	
 Observation	0	√ min. range		4095	√ max.range	1	
Service		S1 T	S2 T2		> »	Two Point NO (Normally O SetP.S1 S2	pen) v
	V Teaching	T1 1057 Teach-in 1	T2 225 Teach-i	i5 n 2	Hide Slidebar		

 \gg The following screen is displayed (for BDC1).

- (2) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
- (3) Place the workpiece at the 1st position (for T1) and click the [Teach-in 1] button. The detection level at the 1st position is displayed in the T1 field.
 - » A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
- (4) Place the workpiece at the 2nd position (for T2) and click the [Teach-in 2] button. The detection level at the 2nd position is displayed in the T2 field.
 - >> A value is displayed for [S2] and the [S2] line shifts on the detection level graph.
- (5) Download the settings to the sensor.

Note

• C • Data Upload and Download(19Page) (for details about downloading to the sensor)

Setup using Window Mode

Window Mode

Window Mode is a function for setting the output window.

Procedure

(1) Select [Setting] \rightarrow [Standard Mode] tab \rightarrow [Window] tab.

Шн	I3C-H # Identify							4 ▷ X
		Chandraid Made Lo. 11						
	Device Information		laval 1552					
-	Setting	Single Value Teach	Two Value Teach	Dynamic Teach	Two Point	Window	Deactivat	e
	Observation	0	√ min. range		4095	√ max.range		
	Service		S1 T	S2 T12			Window	
							NO (Normally	Open) 🗸
		OFF				_		
		« <				> >>	SetP.S1	1068
		« <				> >>	S2	2241
						🗌 Hide Slidebar		
		↓ Teaching						
			T1 1057 Teach-in	1 T2 225 Teach-	55 in 2			

 \gg The following screen is displayed (for BDC1).

- (2) Click $[\downarrow]$ next to [Teaching] to display the teaching settings.
- (3) Place the workpiece at the 1st position (for T1) and click the [Teach-in 1] button. The detection level at the 1st position is displayed in the T1 field.
 - >> A value is displayed for [SetP.S1] and the [S1] line shifts on the detection level graph.
- (4) Place the workpiece at the 2nd position (for T2) and click the [Teach-in 2] button. The detection level at the 2nd position is displayed in the T2 field.
 - >> A value is displayed for [S2] and the [S2] line shifts on the detection level graph.
- (5) Download the settings to the sensor.

Note

• Cr Data Upload and Download(19Page) (for details about downloading to the sensor)

3-4 Setup In Combination Mode

Combination Mode screen layout

Combination Mode is a function for automatically setting the threshold and operating mode for two outputs (BDC1 and BDC2). The Combination Mode screen layout is explained below using the 4-Point Operate screen. Setting using 4-Point Operate(29Page) (for details of the 4-Point Operate function)

Select [Setting] \rightarrow [Combination Mode] tab \rightarrow [4-Point Operate] tab. The following screen is displayed.



(A)	Detection Level	Indicates the detection level of the proximity sensor for the
		workpiece.
(B)	min.range	The lower limit of detection level can be selected from the pull-
		down menu.
(C)	max. range	The upper limit of detection level can be selected from the pull-
		down menu.
(D)	Teach in	Buttons to input the detection level
		Click [leach in] to input data.
(E)	T1 to T4	Indicates the input point.
		First input point: T1
		Fourth input point: T4
(F)	BDC1SetP.S1	Indicates the first set point for BDC1.
		[52] Indicates the second set point.
(G)	BDC2SetP.S1	Indicates the first set point for BDC2.
(H)	Apply	The button for applying the T1-to-T_ data
		SetP.S1 and S2 are set.

Setup using 2-Point Operate

2-Point Operate is a function for setting the set point to a value about halfway between T1 and T2, and setting the same value for BDC1 and BDC2.

Procedure

III U2C U #14-----

(1) Select [Setting] \rightarrow [Combination Mode] tab \rightarrow [2-Point Operate] tab.

H3C-H # Identify	4 ▷ ×
Device Information Standard Mode Combined	tion Mode
2-Point Operate	3-Point Operate 4-Point Operate
▼ Detection Level 3	252
Observation 0	✓ min. range 4095 ✓ max. range
Service BDC1	T1 T2 NO (Normally Open) ~
BDC2 ON OFF	NC (Normally Close) ~
	BDC1SetP.S1
« <	BDC2 SetP.S1
	🗌 Hide SlideBar
Teaching	
T1 61 Teach	7 T2 1312 T3 - T4 - in-1 Teach in-2
	Apply
	>
Connected <u>U</u> Device	Planning Engineer

 \gg The following screen is displayed.

- (2) Place the workpiece at the 1st position (for T1) and click the [Teach-in 1] button. The detection level at the 1st position is displayed in the T1 field.
- (3) Place the workpiece at the 2nd position (for T2) and click the [Teach-in 2] button. The detection level at the 2nd position is displayed in the T2 field.
- (4) Click the [Apply] button.
 - » [BDC1SetP.S1] and [BDC2SetP.S1] are set to the same value and the [S1] line shifts on the detection level graph.
- (5) Download the settings to the sensor.

Note

• 🗇 Data Upload and Download(19Page) (for details about downloading to the sensor)

Setup using 3-Point Operate

3-Point Operate is a function for setting BDC1's set point to a value about halfway between T1 and T2, and for setting BDC2's set point to a value about halfway between T2 and T3.

Procedure

(1) Select [Setting] \rightarrow [Combination Mode] tab \rightarrow [3-Point Operate] tab.

UII H3C-H # Identify	$\triangleleft \triangleright \mathbf{X}$
Device Information Standard Mode Combination Mode	^
2-Point Operate 3-Point Operate 4-Point Operate	
Setting	-
Observation O O min, range 4095 max, range	
S1 51	
BDC1 T1 T2 T3	
NO (Normally Op	en) 🗸
BDC2 S1	
ON NC (Normally Cle	ose) 🗸
Subscription of the second sec	51
BDC2SetP.	61
□ Hide SlideBar	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	
Teach in-1 Teach in-2 Teach in-3	
Apply	
٢	>
Connected Q Device Planning Engineer	

 \gg The following screen is displayed.

- (2) Place the workpiece at the 1st position (for T1) and click the [Teach-in 1] button. The detection level at the 1st position is displayed in the T1 field.
- (3) Place the workpiece at the 2nd position (for T2) and click the [Teach-in 2] button. The detection level at the 2nd position is displayed in the T2 field.
- (4) Place the workpiece at the 3rd position (for T3) and click the [Teach-in 3] button. The detection level at the 3rd position is displayed in the T3 field.
- (5) Click the [Apply] button.
 - >> [BDC1SetP.S1] and [BDC2SetP.S1] are set to the same value and the [S1] lines for BDC1 and BDC2 shift on the detection level graph.
- (6) Download the settings to the sensor.

Note

• Data Upload and Download(19Page) (for details about downloading to the sensor)

Setting using 4-Point Operate

4-Point Operate is a function for setting BDC1's set point S1 to a value halfway between T1 and T2, setting BDC2's set point S1 to a value halfway between T2 and T3, and setting BDC1's set point S2 to a value halfway between T3 and T4.

(1) Select [Setting] \rightarrow [Combination Mode] tab \rightarrow [4-Point Operate] tab.

Procedure

- III H3C-H # Identify $\triangleleft \triangleright \mathbf{x}$ Standard Mode Combination Mode ^ Device Information 2-Point Operate 3-Point Operate 4-Point Operate Setting ▼ Detection Level | 3248 Observation 4095 0 \sim min. range max. range Service BDC1 т2 ΟN NO (Normally Open) 🗸 OFF BDC2 ΟN NC (Normally Close) $\, \sim \,$ OFF ≪ < > >> BDC1SetP.S1 ≪ < > >> **S**2 ≪ < > >> BDC2SetP.S1 🔄 Hide SlideBar Teaching Τ1 667 T2 1312 T3 1781 T4 2749 Teach in-1 Teach in-2 Teach in-3 Teach in-4 Apply Connected Device Planning Engineer
- \gg The following screen is displayed.

- (2) Place the workpiece at the 1st position (for T1) and click the [Teach-in 1] button. The detection level at the 1st position is displayed in the T1 field.
- (3) Place the workpiece at the 2nd position (for T2) and click the [Teach-in 2] button. The detection level at the 2nd position is displayed in the T2 field.
- (4) Place the workpiece at the 3rd position (for T3) and click the [Teach-in 3] button. The detection level at the 3rd position is displayed in the T3 field.
- (5) Place the workpiece at the 4th position (for T4) and click the [Teach-in 4] button. The detection level at the 4th position is displayed in the T4 field.
- (6) Click the [Apply] button.
 - >> Values are displayed for [BDC1SetP.S1], [S2], and [BDC2SetP.S1], and the [S1] and [S2] lines for BDC1 and BDC2 shift on the detection level graph.
- (7) Download the settings to the sensor.

Note

• Data Upload and Download(19Page) (for details about downloading to the sensor)

Chapter 4. Validation of Settings

Checking the settings

Check the set points, output operation, and switchpoint logic that were specified.

On the [Measurement] tab, the specified settings can be validated by comparing the settings and changes in the detection level when a workpiece is moved.

- (1) Select [Observation] \rightarrow [Measurement] tab.
 - >> The output operation and switchpoint logic settings that were downloaded to the sensor are displayed. The set points for BDC1 and BDC2 (SetP.S1, S2) are also displayed.

Example

IIII H3C-H # Identify			4	⊳ x
Device Information	Measurement Trend			^
Setting	Detection Level 3248			
Observation	BDC1 <u>SetP.S1</u> 957	<u>SetP.S2</u>		
Service	BDC2 <u>SetP.S1</u> 1514	<u>SetP.S2</u>		
		0 v min. range	4095 v max.range	
			\bigcirc	
		51		
	BDC1 OFF	S1		
	OFF			~
<			>	
Connected <u>Q</u> Device		Planning Engineer		

(2) Move the workpiece to change the detection level \bigcirc to validate the settings.

Acquiring trend data

Check the set points, output operation, and switchpoint logic that were specified.

On the [Trend] tab, the specified settings and changes in the detection level when a workpiece is moved can be checked. Also, trend data can be saved in CSV format.

- (1) Select [Observation] \rightarrow [Trend] tab.
 - \gg The following screen is displayed.



(2) Click the ▶ button to start data acquisition. The detection level changes when the target is moved.



» The following screen is displayed.

(3) To stop data acquisition, click the **b**utton.

! Handling Precautions

• Trend data is for operational check only and cannot be used for logging. The displayed update cycle may not be accurate.

Exiting the setup tool

- (1) From the menu, select [Project] \rightarrow [HOST PC] \rightarrow [H3C-H].
 - \gg The following screen is displayed.

1	File	Edit	View	Proje	ct	De	vice	Extras	Window	N	Help	
	1 🗋 🛛	3	3 🗗	-	2	0		Dr 🖸	1 🗐 🧕	ðő i	i	1
	Project										₽×	ł
	Device	tag			0	<u>)</u>	36	Channel		Ac	ddress	Γ
	🗐 НО	ST PC										
	- F 1	0-Link	USB Mas	ter 2.0	Ϊ	+	=0=					
	i j(()	H3C-I	н		Ϊ	+	-0-	Channel	Id_IOLink			

- (2) Click the 🛱 quick menu button.
 - \gg The following screen is displayed.

-					
📕 HOST PC					
📮 🛱 IO-Link USB Master 2.0	∕	-†-	=0=		
📖 📶 НЗС-Н	1	+	-0D-	Channel_ld_lOLink	

(3) From the menu, select [Project] \rightarrow [IO-Link USB Master2.0]. Then, click the 4 quick menu button.

\gg The following screen is displayed.

	B HOST PC					Ī
l	📮 👼 IO-Link USB Master 2.0	1	≁	-0D-		
	🛄 НЗС-Н	1	Ŧ	⊲⊳	Channel_Id_IOLink	

- (4) Click [x] on the upper right of the FDT frame.
 - \gg The following screen is displayed.

PACTware	data changed			×
⚠	Yo	ou have change Save ch	d PACTware data. aanges?	
[Yes	No	Cancel	Help

- (5) Click the [No] button.
 - \gg The following screen is displayed.



(6) Click the [Yes] button.

 \gg The setup tool is closed and the Windows screen is displayed.



• Close the application before disconnecting the IO-Link USB master from the PC or the proximity sensor.

Chapter 5. Using the Proximity Sensor after Downloading the Settings

Method of use

After downloading the settings and confirming that the proximity sensor operates properly with those settings, use the sensor in standard I/O mode or IO-Link communication mode.

• Standard I/O mode (SIO mode)

In the usual interface connection, the sensor operates in standard I/O mode as an ON/OFF sensor.

BDC1 data is output to terminal C/Q and BDC2 data is output to terminal DO.

• IO-Link communication mode (COM mode)

This mode can be used when the sensor is used with an IO-Link USB master.

During IO-Link communication, the green LED blinks on a 1-second cycle.

BDC1 and BDC2 data are output from terminal C/Q as process data, and the orange LED is lit when the BDC1 output is ON.

• Outputs and connections for standard I/O mode (SIO mode)



• Outputs and connections for IO-Link communication mode (COM mode)



Outputs and indicators

The following shows the output status and indicator status when the adjustable proximity sensor is used in standard I/O mode or IO-Link communication mode.

• Operation mode: single point mode

Single point mode is the output mode when any one of the following teaching methods is used:

- Teaching methods available in the standard mode:
 - Single Value Teach
 - Two Value Teach
- Dynamic Teach
- Teaching methods available in the combination mode:
 - 2-Point Operate BDC1, 2
 - 3-Point Operate BDC1, 2
 - 4-Point Operate BDC2

In standard I/O mode

Target position		BDC2 s	et point	BDC1 s	set point
	N.O.	C	DN		
CQ (output): BDC1	N.C.				ON
	N.O.	ON			
DO (output): BDC2	N.C.			0	N
Indicator (cron ac), PDC1	N.O.	L	.it		
Indicator (orange): BDC1	N.C.				Lit
	N.O.	Lit			
indicator (green): BDC2	N.C.			L	it

Target position			BDC2 s	et point	BDC1 s	et point
	Processdata:	N.O.	1: ON 0		0: OFF	
CQ	BDC1	N.C.	0: OFF 1: ON			1: ON
(IO-Link comm.)	Processdata: BDC2	N.O.	1: ON	0: OFF		FF
		N.C.	0: OFF	1: ON		DN
N. N.		N.O.	ON			
DO (output): BD	DO (output): BDC2				0	N
Indicator (orange): BDC1 N.O. N.C.		N.O.	L	it		
		N.C.				Lit
Indicator (green)			Blir	nks on a 1-se	cond cy	cle

In IO-Link communication mode

• Operation mode: two point mode

Two point mode is the output mode when the following teaching method is used:

- Teaching method available in the standard mode:
 - Two Point

In standard I/O mode

Target position		BDC2	set point	BDC1 set	point
	N.O.	ON	Â		
	N.C.		Â		ON
	N.O.	ON	Â		
DO (Output): BDC2	N.C.		Â		ON
Indicator (orango): PDC1	N.O.	Lit	Â		
indicator (orange). BDCT	N.C.		A		Lit
Indicator (groon): PDC2	N.O.	Lit	Â		
indicator (green): BDC2	N.C.		A		Lit

	III IO-Link communication mode					
Target positior			BDC	2 set point	BDC1 set p	point
	Processdata:	N.O.	1: ON	Â		0: OFF
CQ	BDC1	N.C.	0: OFF	Â		1: ON
(IO-Link comm.)	Processdata: BDC2	N.O.	1: ON	Â		0: OFF
		N.C.	0: OFF	Â		1: ON
DO (output):	DO (output):		ON			
BDC2		N.C.			ON	
Indicator (orange): BDC1		N.O.	Lit	ÂÂ		
		N.C.		Â		Lit
Indicator (green)				Blinks on a 1-s	econd cycle	

In IO-Link communication mode

🕅 Note

- During the "A" period, the ON or OFF state before reaching the first set point is maintained.
 - Example: In the case of CQ (output): BDC1, if the workpiece is approaching from a distance, the output is off during "A". If the workpiece is moving away from the sensor, the output is on during "A."

• Operation mode: window mode

Window mode is the output mode when either one of the following teaching methods is used:

- Teaching method available in the standard mode:Window Mode Teach
- Teaching method available in the combination mode:
 4-Point Operate BDC1

Target position		BDC2 s	et point BDC1	set point
	N.O.		ON	
CQ (output): BDC I	N.C.	ON		ON
	N.O.		ON	
DO (output): BDC2	N.C.	ON		ON
Indicator (orango): PDC1	N.O.		Lit	
indicator (orange): BDCT	N.C.	Lit		Lit
Indicator (groon), PDC2	N.O.		Lit	
indicator (green): BDC2	N.C.	Lit		Lit

In IO-Link communication mode

Target position			BDC2 se	et point BDC1 s	set point
		NO			
	Processdata:	N.O.	0: OFF	1: ON	0: OFF
CQ	BDC1	N.C.	1: ON	0: OFF	1: ON
(IO-Link comm.)	Processdata: BDC2	N.O.	0: OFF	ON	0: OFF
		N.C.	1: ON	0: OFF	1: ON
N.O.				ON	
	.2	N.C.	ON		ON
N.O.				Lit	
N.C.		N.C.	Lit		Lit
Indicator (green)			Blir	nks on a 1-second cy	/cle

Chapter 6. Troubleshooting

No.	Phenomenon	Countermeasure
1	The DTM cannot be installed.	Check whether .NET Framework 3.5 SP1 is installed on the computer.
2	[Observation] page is blank.	Reinstall Microsoft Chart Controls 3.5 SP1.
3	Trend data acquisition cycle is not accurate.	The trend data displayed by the DTM is for operational check before actual use only and cannot be used for logging.
		The displayed update cycle may not be accurate.
		It is possible to stabilize the cycle by taking measures such as using a PC with higher specifications or closing applications that are running at the same time.
4	Loading trend data fails.	If changes have been made in the target file, loading of the file may fail.
5	🖊 or ! icon is displayed.	Grain Marks on the settings screen(5Page) (for the meaning of the icons)
		To remove the icon, press the data download button or the data upload button.
6	The DTM screen layout is poor.	Use the specified FDT frame.
7	• Exiting the setup tool(32Page)was executed, but the green LED on the proximity sensor is still blinking.	This may occur depending on the version of the IO-Link USB master and the FDT that are used.
8	• Exiting the setup tool(32Page)was executed, but the green LED on the proximity sensor is still blinking.	The application has already been closed, so there is no problem in disconnecting the sensor from the IO-Link USB master
	In this state, is it OK to disconnect the IO-Link USB master from the sensoror from the PC?	or disconnecting the IO-Link USB master from the PC.
9	• Exiting the setup tool(32Page)was executed, but the green LED on the proximity sensor is still blinking (IO-Link communication is in progress).	The application has already been closed. Disconnect the sensor from the IO-Link USB master and reconnect it.
	How can I check the LED indication in standard I/O mode?	
10	I would like to change the settings that were downloaded to the sensor.	The previous settings are overwritten by the new settings when they are downloaded to the sensor. Change the settings
	Do the previous settings affect the new settings?	as needed and download them to the sensor to apply the latest settings.

-MEMO-

Revision History of CP-SP-1452E

Date	Rev.	(New) Page No.	Description
Jan. 2021	1		



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