

Confocal Fiber Displacement Sensor ZW-7000/5000 Series



Reliable measurements for any material and surface types

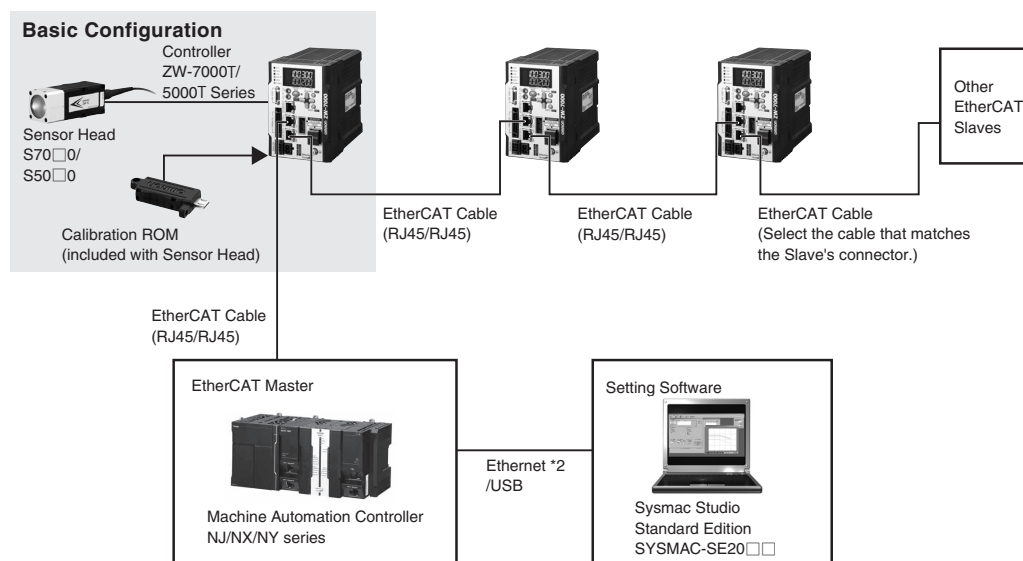
- Measuring shiny objects with an inclination of $\pm 25^\circ$
- $\pm 0.5 \mu\text{m}$ or less linearity for various materials
- Sampling rate as fast as 20 μs
- Small spot diameter of 10 μm or less

Note: Angle characteristic, linearity, sampling period and spot diameter given in the cover differ among models. Please ask OMRON sales representative for details.

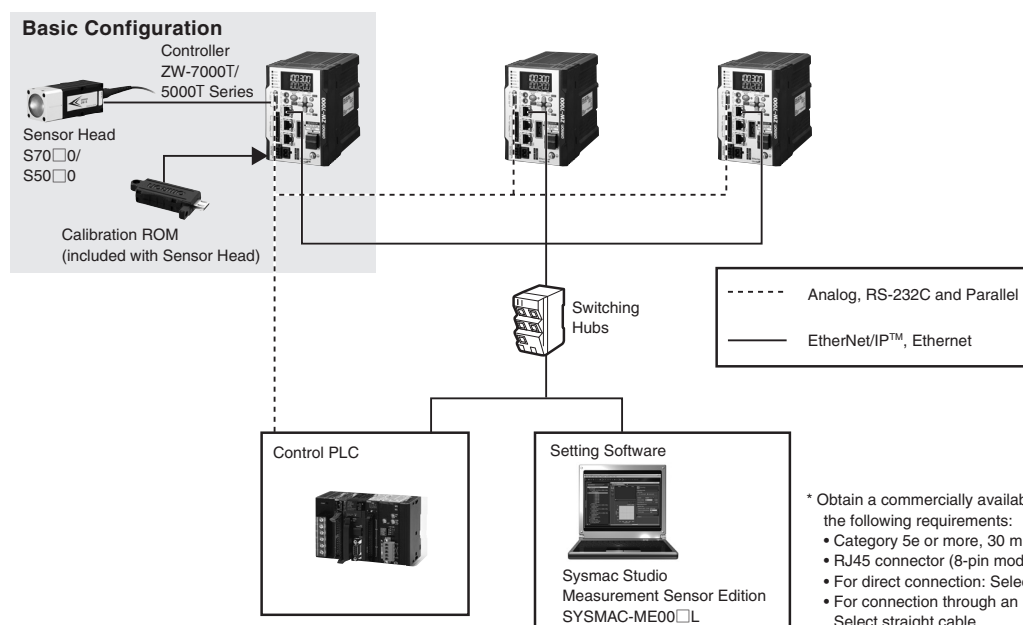


System Configuration

EtherCAT connections



Analog, EtherNet/IP, Ethernet, RS-232C and Parallel connections



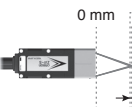
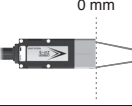
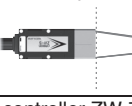
* Obtain a commercially available Ethernet cable satisfying the following requirements:

- Category 5e or more, 30 m or less
- RJ45 connector (8-pin modular jack)
- For direct connection: Select cross cable.
- For connection through an industrial switching hub: Select straight cable.

Order Information

ZW-7000

●Sensor Head

Appearance	Measuring range	Spot diameter	Static resolution *	Cable length	Model
	 0 mm 9.5 mm 10 mm 10.5 mm Measuring range 10±0.5 mm	50 μm dia.	0.25 μm	2 m	ZW-S7010 2M
				0.3 m	ZW-S7010 0.3M
	 0 mm 19 mm 20 mm 21 mm Measuring range 20±1mm	70 μm dia.	0.25 μm	2 m	ZW-S7020 2M
				0.3 m	ZW-S7020 0.3M
	 0 mm 28 mm 30 mm 32 mm Measuring range 30±2mm	100 μm dia.	0.25 μm	2 m	ZW-S7030 2M
				0.3 m	ZW-S7030 0.3M

* Values when the controller ZW-7000T is used.

●Controller with EtherCAT

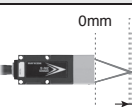
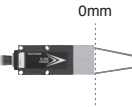
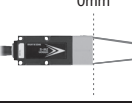
Appearance	Power supply	Output type	Model
	24VDC	NPN/PNP	ZW-7000T

●Cable

Appearance	Item	Cable length	Model
	Extension Fiber Cable (from Sensor Head to Controller), (Fiber Adapter ZW-XFCM is included)	2 m	ZW-XF7002R
		5 m	ZW-XF7005R
		10 m	ZW-XF7010R
		20 m	ZW-XF7020R
		30 m	ZW-XF7030R
	Fiber Adapter (used between Sensor Head pre-wired cable and Extension Fiber Cable)	—	ZW-XFCM

ZW-5000

●Sensor Head

Appearance	Measuring range	Spot diameter	Static resolution *	Cable length	Model
	 0mm 9.5mm 10mm 10.5mm Measuring range 10±0.5 mm	9 μm dia.	0.25 μm	2 m	ZW-S5010 2M
				0.3 m	ZW-S5010 0.3M
	 0mm 19mm 20mm 21mm Measuring range 20±1mm	13 μm dia.	0.25 μm	2 m	ZW-S5020 2M
				0.3 m	ZW-S5020 0.3M
	 0mm 28mm 30mm 32mm Measuring range 30±2mm	18 μm dia.	0.25 μm	2 m	ZW-S5030 2M
				0.3 m	ZW-S5030 0.3M

* Values when the controller ZW-5000T is used.

●Controller with EtherCAT

Appearance	Power supply	Output type	Model
	24VDC	NPN/PNP	ZW-5000 T

●Cable

Appearance	Item	Cable length	Model
	Extension Fiber Cable (from Sensor Head to Controller), (Fiber Adapter ZW-XFC2 is included)	2 m	ZW-XF5002R
		5 m	ZW-XF5005R
		10 m	ZW-XF5010R
		20 m	ZW-XF5020R
		30 m	ZW-XF5030R
	Fiber Adapter (used between Sensor Head pre-wired cable and Extension Fiber Cable)	-	ZW-XFC2

ZW-7000/5000 Series

Common cables

Appearance	Item	Cable length	Model
	Parallel cable for ZW-7000T/5000T 32-pole (included with Controller ZW-7000T/5000T)	2 m	ZW-XCP2E
	RS-232C Cable for personal computer	2 m	ZW-XRS2
	RS-232C Cable for PLC/programmable terminal	2 m	ZW-XPT2

Recommended EtherCAT Communications Cables

Use Straight STP (shielded twisted-pair) cable of category 5 or higher with double shielding (braiding and aluminum foil tape) for EtherCAT.

Cable with Connectors

Item	Appearance	Recommended manufacturer	Cable length(m) *1	Model
Standard type Cable with Connectors on Both Ends (RJ45/RJ45) Wire Gauge and Number of Pairs: AWG26, 4-pair Cable Cable Sheath material: LSZH *2 Cable color: Yellow *3		OMRON	0.3	XS6W-6LSZH8SS30CM-Y
			0.5	XS6W-6LSZH8SS50CM-Y
			1	XS6W-6LSZH8SS100CM-Y
			2	XS6W-6LSZH8SS200CM-Y
			3	XS6W-6LSZH8SS300CM-Y
			5	XS6W-6LSZH8SS500CM-Y
Rugged type Cable with Connectors on Both Ends (RJ45/RJ45) Wire Gauge and Number of Pairs: AWG22, 2-pair Cable		OMRON	0.3	XS5W-T421-AMD-K
			0.5	XS5W-T421-BMD-K
			1	XS5W-T421-CMD-K
			2	XS5W-T421-DMD-K
			5	XS5W-T421-GMD-K
			10	XS5W-T421-JMD-K
Rugged type Cable with Connectors on Both Ends (M12 Straight/RJ45) Wire Gauge and Number of Pairs: AWG22, 2-pair Cable		OMRON	0.3	XS5W-T421-AMC-K
			0.5	XS5W-T421-BMC-K
			1	XS5W-T421-CMC-K
			2	XS5W-T421-DMC-K
			5	XS5W-T421-GMC-K
			10	XS5W-T421-JMC-K
Rugged type Cable with Connectors on Both Ends (M12 Right-angle/RJ45) Wire Gauge and Number of Pairs: AWG22, 2-pair Cable		OMRON	0.3	XS5W-T422-AMC-K
			0.5	XS5W-T422-BMC-K
			1	XS5W-T422-CMC-K
			2	XS5W-T422-DMC-K
			5	XS5W-T422-GMC-K
			10	XS5W-T422-JMC-K

Note: For details, refer to Cat.No.G019.

*1. Standard type cables length 0.2, 0.3, 0.5, 1, 1.5, 2, 3, 5, 7.5, 10, 15 and 20m are available.

Rugged type cables length 0.3, 0.5, 1, 2, 3, 5, 10 and 15m are available.

*2. The lineup features Low Smoke Zero Halogen cables for in-cabinet use and PUR cables for out-of-cabinet use.

*3. Cables colors are available in blue, yellow, or Green

Cables / Connectors

Wire Gauge and Number of Pairs: AWG24, 4-pair Cable

Item	Appearance	Recommended manufacturer	Model
Cables	—	Hitachi Metals, Ltd.	NETSTAR-C5E SAB 0.5 × 4P *
	—	Kuramo Electric Co.	KETH-SB *
	—	SWCC Showa Cable Systems Co.	FAE-5004 *
RJ45 Connectors	—	Panduit Corporation	MPS588-C *

* We recommend to use above cable and connector together.

Wire Gauge and Number of Pairs: AWG22, 2-pair Cable

Item	Appearance	Recommended manufacturer	Model
Cables	—	Kuramo Electric Co.	KETH-PSB-OMR *
	—	JMACS Japan Co.,Ltd.	PNET/B *
RJ45 Assembly Connector		OMRON	XS6G-T421-1 *

Note: Connect both ends of cable shielded wires to the connector hoods.

* We recommend to use above cable and connector together.

●Industrial switching hubs for Ethernet

Appearance	Number of ports	Failure detection	Current consumption	Model
	3	None	0.22A	W4S1-03B
	5	None	0.22A	W4S1-05B
		Supported		W4S1-05C

Note: Industrial switching hubs are cannot be used for EtherCAT.

●EtherCAT junction slaves

Appearance	Number of ports	Power supply voltage	Current consumption	Model
	3	20.4 to 28.8 VDC (24 VDC -15 to 20%)	0.08A	GX-JC03
	6		0.17A	GX-JC06

Note: 1. Please do not connect EtherCAT junction slave with OMRON position control unit, Model CJ1W-NC□81/□82.
2. EtherCAT junction slaves cannot be used for EtherNet/IP™ and Ethernet.

●Automation Software Sysmac Studio

Please purchase a DVD and required number of licenses the first time you purchase the Sysmac Studio. DVDs and licenses are available individually.

Each model of licenses does not include DVD.

Item	Specifications	Number of licenses		Media	Model	Standards
		— (Media only)	—			
Sysmac Studio Standard Edition Ver.1.□□ *2	The Sysmac Studio is the software that provides an integrated environment for setting, programming, debugging and maintenance of machine automation controllers including the NJ/NX-series CPU Units, NY-series Industrial PC, EtherCat Slave, and the HMI. Sysmac Studio runs on the following OS. Windows 7 (32-bit/64-bit version)/Windows 8 (32-bit/64-bit version)/Windows 8.1 (32-bit/64-bit version)/Windows 10(32-bit/64-bit version) This software provides functions of the Measurement Sensor Edition. Refer to Sysmac Catalog (P072) for details such as supported models and functions.	— (Media only)	—	DVD	SYSMAC-SE200D	—
		1 license*1	—	—	SYSMAC-SE201L	—
Sysmac Studio Measurement Sensor Edition Ver.1.□□	Sysmac Studio Measurement Sensor Edition is a limited license that provides selected functions required for ZW-series Displacement Sensor settings. Because this product is a license only, you need the Sysmac Standard Edition DVD media to install it.	1 license	—	—	SYSMAC-ME001L	—
		3 license	—	—	SYSMAC-ME003L	—

*1. Multiple licenses are available for the Sysmac Studio (3, 10, 30, or 50 licenses).

*2. ZW-series is supported by Sysmac Studio version 1.18 or higher.

●Fiber Cleaner

Item	Recommended manufacturer	Model	Applicable Model		Contacts
			ZW-7000	ZW-5000	
Fiber Connector Cleaner *1	OMRON	ZW-XCL	Yes	Yes	OMRON
NEOCLEAN-M	NTT Advanced	ATC-NE-M1	Yes	No	*2
OPTIPOP R1	Technology Corporation	ATC-RE-01	No	Yes (Sensor Head only)	

*1. Place orders in units of boxes (contacting 10 units).

*2. Contacts

Japan: NTT Advanced Technology Corporation TEL: 0422-47-7888
China: GUANGZHOU LI CHENG OPTOELECTRONIC CO.,LTD. TEL: 020-8165 0508
Hong Kong: ComStar Communications Ltd. TEL: +852 2536 9737
Taiwan: Global Science Instruments Co., Ltd. TEL: +886-2-8913-2737 Ext. 33
India: Aishwarya Telecom Ltd. TEL: +91 40 2753 1324
Singapore: Masstron Pte Ltd TEL: (65) 6763 0309
Malaysia: Masstron Communication Solutions Sdn Bhd TEL: (603) 8061 0309
Thailand: Masstron (Thailand) Co.,Ltd TEL: (66-2) 319-9375/6
Vietnam: Masstron Pte Ltd (Singapore) TEL: (65) 6763 0309
Germany: AMS Technologies AG TEL: +49 (0)89 895 77 0
France: AMS Technologies S.A.R.L. TEL: +33 (0)1 64 86 46 00
Italy: AMS Technologies S.r.l. TEL: +39 0331 596 693
Spain: AMS Technologies S.L. TEL: +34 93 380 84 20
Netherlands: AMS Technologies AG (Germany) TEL: +49 (0)89 895 77 0
USA: AFL Telecommunications TEL: +1 (800) 235-3423

ZW-7000/5000 Series

Specifications

●Sensor Head

Item	Specifications					
	ZW-S7010	ZW-S7020	ZW-S7030	ZW-S5010	ZW-S5020	ZW-S5030
Sensor controller	ZW-7000T			ZW-5000T		
Measurement center distance	10 mm	20 mm	30 mm	10 mm	20 mm	30 mm
Measuring range	±0.5 mm *1	±1 mm*1	±2 mm*1	±0.5 mm	±1 mm	±2 mm
Static resolution *2	0.25 μm					
Linearity *3	±0.45 μm	±0.9 μm	±2.0 μm	±0.45 μm	±0.9 μm	±2.0 μm
Spot diameter (Total measurement range) *4	50 μm dia.	70 μm dia.	100 μm dia.	9 μm dia.	13 μm dia.	18 μm dia.
Measurement cycle *5	20 μs to 400 μs			80 μs to 1600 μs		
Operating ambient illumination	Illumination on object surface max.30000: (incandescent light)					
Ambient temperature range	Operation: 0 to 50°C, Storage: -15 to 60°C (No freezing and condensation)					
Ambient humidity range	Operation/storage: 35 or 85%RH (No condensation)					
Degree of protection	IP40 (IEC60529)					
Vibration resistance (destructive)	10 to 150 Hz (half amplitude 0.35 mm), 80 mins in each of X/Y/Z directions					
Shock resistance (destructive)	150 m/s ² , 6 direction, 3 times each (up/down, left/right, forward/backward)					
Temperature characteristic *6	0.6 μm/°C	1.1 μm/°C	1.8 μm/°C	0.6 μm/°C	1.1 μm/°C	1.8 μm/°C
LED Safety	Risk Group 3 (IEC62471)					
Material	Chassis: aluminum die cast Fiber cable sheath: PVC Calibration ROM: PC					
Fiber cable length	0.3 m, 2 m (flex-resistant cable)					
Fiber cable minimum bend radius	20 mm					
Insulation resistance (Calibration ROM)	Between case and all terminals: 20 MΩ (by 250 VDC)					
Dielectric strength (Calibration ROM)	Between case and all terminals: 1000 VAC, 50/60 Hz, 1 min					
Weight	Fiber cable length 0.3m Approx. 170g Fiber cable length 2m Approx. 180g					
Accessories	Calibration ROM fixing screws (M2) Fiber protection cap Strap × 2 Instruction Manual Precautions			Calibration ROM fixing screws (M2) Fiber protection cap Strap × 1 Instruction Manual Precautions		

*1. The measurement range is higher 28 μs than measurement cycle.

*2. Capacity value when OMRON standard mirror surface target is measured at the measurement center distance as the average of 16,384 times
The value when the controller ZW-7000T/5000T is connected

*3. Material setting for the OMRON standard mirror surface target: Error from an ideal straight line when measuring on mirror surface.

*4. Capacity value defined by 1/e² (13.5%) of the peak optical intensity of the measurement wavelength.

*5. When an extension fiber cable of 5 m or longer is connected, the setting range of the measurement cycle (exposure time) changes.

*6. Capacity value of temperature characteristic at the measurement center distance when fastened with an aluminum jig between the Sensor Head and the target and the Sensor Head and the Sensor Controller are set in the same temperature environment.

●Controller

Item			Specifications		
			ZW-7000T	ZW-5000T	
Input/output type			NPN/PNP dual type		
Number of connected sensor heads			1		
Sensor head compatibility			ZW-S70□□	ZW-S50□□	
Light source for measurement			White LED		
LED Safety			Risk Group 3 (IEC62471)		
Segment Display	Main display		11-segment white display, 6 digits		
	Sub-display		11-segment green display, 6 digits		
LED display	Status indicators		HIGH (orange), PASS (green), LOW (orange), STABILITY (green), ZERO (green), ENABLE (green), THRESHOLD-H (orange), THRESHOLD-L (orange), RUN (green)		
	EtherCAT indicator		ECAT RUN (green), L/A IN (Link/Activity IN) (green), L/A OUT (Link/Activity OUT) (green), ECAT ERR (red)		
External I/F	Ethernet		100BASE-TX/10BASE-T, Non-procedure (TCP/UDP), EtherNet/IP		
	EtherCAT		EtherCAT exclusive protocol 100BASE-TX		
	RS-232C		Max. 115,200 bps		
	Analog output terminal block	Analog voltage output (OUT V)		-10 V to +10 V, output impedance: 100 Ω	
		Analog current output (OUT A)		4 mA to 20 mA, max. load resistance: 300 Ω	
	32-pole expansion connector	Judgment output (HIGH/PASS/LOW)		Transistor output system Output voltage: 21.6 to 30 VDC Load current: 50 mA or less Residual voltage when turning ON: 2 V or less Leakage voltage when turning OFF: 0.1 mA or less	
		Busy output (BUSY)			
		Alarm output (ALARM)			
		Enable output (ENABLE)			
		Sync flag output (SYNFLG)			
		Trigger busy output (TRIGBUSY)			
		Logging state output (LOGSTAT)			
		Logging error output (LOGERR)			
		Stability output (STABILITY)			
		Task state output (TASKSTAT)			
		LIGHT OFF input (LIGHT OFF)			
		Zero reset input (ZERO)		DC input system Input voltage: 24 VDC ± 10% (21.6 to 26.4 VDC) Input current: 7 mA Type. (24 VDC) ON voltage/ON current: 19 V/3 mA or less ON voltage/ON current: 5 V/1 mA or less	
		Timing input (TIMING)			
		Reset input (RESET)			
		Sync input (SYNC)			
		Trigger input (TRIG)			
		Logging input (LOGGING)			
		Bank	Currently selected bank output (BANK_OUT 1 to 3)		
Bank Selection input (BANK_SEL 1 to 3)			DC input system Input voltage: 24 VDC ± 10% (21.6 to 26.4 VDC) Input current: 7 mA Type. (24 VDC) ON voltage/ON current: 19 V/3 mA or more OFF voltage/OFF current: 5 V/1 mA or less		
Main functions	Exposure time		Automatic/Fixed		
	Measuring cycle *1		20 μs to 400 μs	80 μs to 1600 μs	
	Material setting		Standard/Mirror/Rough surfaces		
	Measurement item		Height/Thickness of transparent object/Calculation		
	Filtering		Median/Average/Differentiation/High pass/Low pass/Band pass		
	Output		Scaling/Different holds/Zero reset/Logging for a measured value		
	Display		Measured value/Threshold value/Analog output voltage or current value/ Judgment result/Resolution/Light power/Internal logging condition /Peak amount of received light		
	Number of configurable banks		Max. 8 banks		
	Task process		Multi-task (up to 4 tasks per bank)		
	System		Save/Initialization/Display measured information/Communication settings/ Sensor head calibration/Key-lock/Zero reset memory/Timing input		
Rating	Power supply voltage		21.6 to 26.4 VDC (including ripple)		
	Current consumption		800 mA max.		
	Insulation resistance		Across all lead wires and FG terminal: 20 MΩ (by 250 VDC)		
	Dielectric strength		Between all lead wires and FG terminal: 500 VAC, 50/60 Hz, 1 minute		
Environmental resistance	Degree of protection		IP20 (IEC60529)		
	Vibration resistance (destructive)		10 to 55 Hz (half amplitude 0.35 mm), 50 mins in each of X/Y/Z directions		
	Shock resistance (destructive)		150 m/s ² , 6 direction, 3 times each (up/down, left/right, forward/backward)		
	Ambient temperature range		Operation: 0 to 40°C, Storage: -15 to +60°C (No freezing and condensation)		
Ambient humidity range			Operation/storage: 35 to 85%RH (No condensation)		
Grounding			D-type grounding (grounding resistance of 100 Ω or less) Note: For conventional Class D grounding		
Material			Chassis: PC		
Weight			Approx. 900g (main unit only), Approx. 150 g (Parallel cable)		
Accessories			Parallel cable (ZW-XCP2E)		Parallel cable (ZW-XCP2E)
			10 Fiber cleaners (ZW-XCL)		10 Fiber cleaners (ZW-XCL)
			Instruction Manual		Fiber adapter cap, Strap × 1
			Member registration sheet		Instruction Manual, Member registration sheet

Note: The Export Trade Control Order compatible Controller (ZW-7000T/5000T) is available.

When using this Controller, the minimum resolution is 0.25 μm regardless of the connected Sensor Head and setting conditions.

*1. When an extension fiber cable of 5 m or longer is connected, the setting range of the measurement cycle (exposure time) changes.

ZW-7000/5000 Series

●EtherCAT Communications Specifications

Item	Specification
Communications standard	IEC61158 Type12
Physical layer	100BASE-TX(IEEE802.3)
Connectors	RJ45 × 2 ECAT IN: EtherCAT input ECAT OUT: EtherCAT output
Communications media	Category 5 or higher (cable with double, aluminum tape and braided shielding) is recommended.
Communications distance	Distance between nodes: 100 m max.
Process data	Variable PDO mapping
Mailbox (CoE)	Emergency messages, SDO requests, SDO responses, and SDO information
Distributed clock	Synchronization in DC mode.
LED display	L/A IN (Link/Activity IN) × 1, AL/A OUT (Link/Activity OUT) × 1, AECAT RUN × 1, AECAT ERR × 1

●Automation Software Sysmac Studio

Item	Operating environment *3
Operating system (OS) *1	Windows 7 (32-bit/64-bit version)/Windows 8 (32-bit/64-bit version)/Windows 8.1 (32-bit/64-bit version)/Windows 10(32-bit/64-bit version)
CPU	Windows computers with Intel® Celeron® processor 540 (1.8 GHz) or faster CPU. Intel® Core™ i5 M520 processor (2.4 GHz) or equivalent or faster recommended.
Main memory	2 GB min. 4 GB min. recommended
Hard disk	Minimum 4.6 GB of Hard disk space is required to install. *2
Display	XGA 1024 × 768, 16 million colors. WXGA 1280 × 800 min. recommended
Disk drive	DVD-ROM drive
Communications ports	USB port corresponded to USB 2.0, or Ethernet port *4
Supported languages	Japanese, English, German, French, Italian, Spanish, simplified Chinese, traditional Chinese, Korean

*1. Note about Sysmac Studio compatible operating systems: The required system and hard disk capacity differs according to the system environment.

*2. Separate logging memory is required to use the file logging function.

*3. Describes System Requirements and notes of Sysmac Studio Measurement Sensor Edition.

For detail of System Requirements and notes of Sysmac Studio Measurement Sensor Edition, refer to Sysmac Studio Version 1 Operation Manual.

*4. For information on how to connect a personal computer with the controller or other hardware and information on required cables, refer to manuals for each hardware.

●Version Information

ZW-7000/5000 Series and Sysmac Studio

Use the latest version of Sysmac Studio Standard Edition/Measurement Sensor Edition.

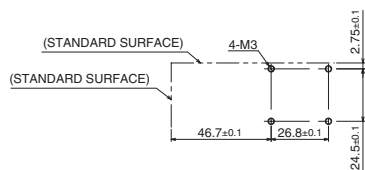
ZW Series	Version of Controller	Corresponding version of Sysmac Studio Standard Edition/Measurement Sensor Edition
ZW-7000□	Ver.2.03	Supported by version 1.15 or higher.
ZW-5000□	Ver.2.10	Supported by version 1.18 or higher.

External Dimensions

(Unit: mm)

Sensor Head

ZW-S7010 ☐ M/S7020 ☐ M/S7030 ☐ M



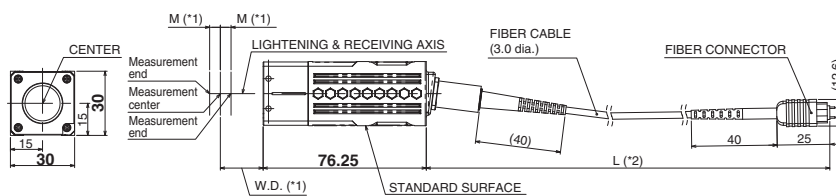
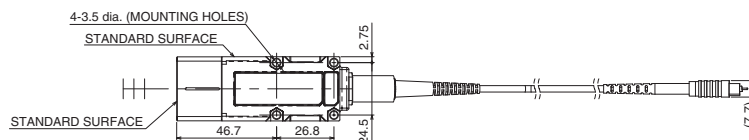
MOUNTING SCREW HOLES

*1.

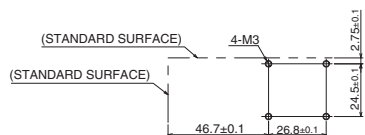
Type	W.D.	M
ZW-S7010	10	0.5
ZW-S7020	20	1
ZW-S7030	30	2

*2.

Length	L
0.3 m	(300)
2 m	(2000)



ZW-S5010 ☐ M/S5020 ☐ M/S5030 ☐ M



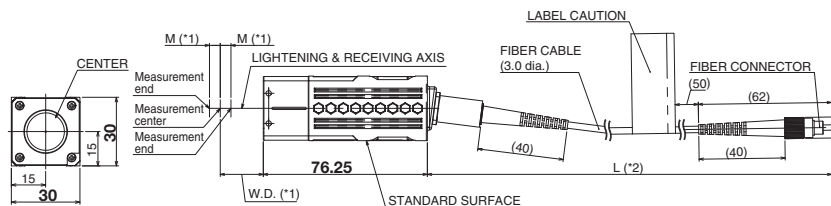
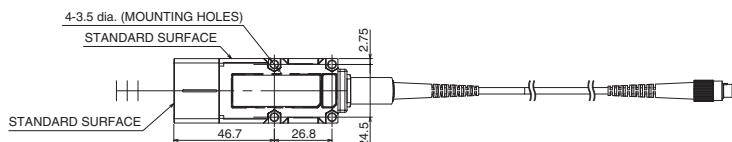
MOUNTING SCREW HOLES

*1.

Type	W.D.	M
ZW-S5010	10	0.5
ZW-S5020	20	1
ZW-S5030	30	2

*2.

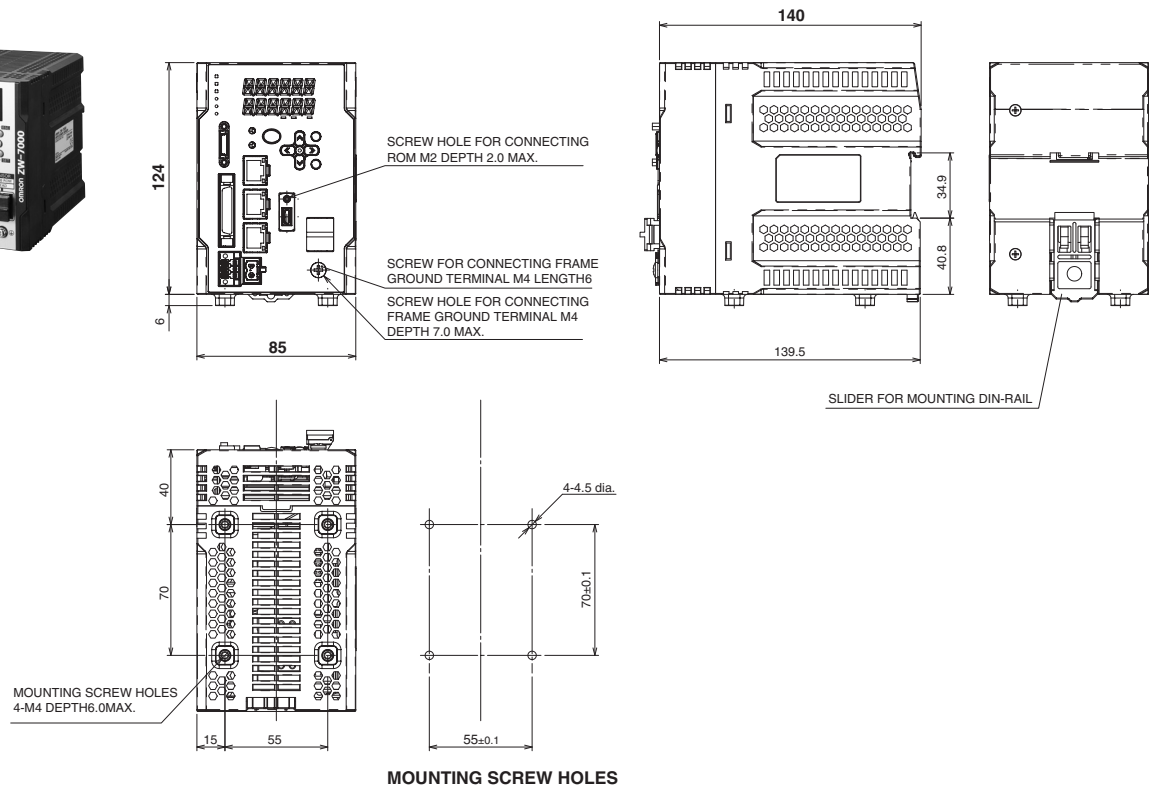
Length	L
0.3 m	(300)
2 m	(2000)



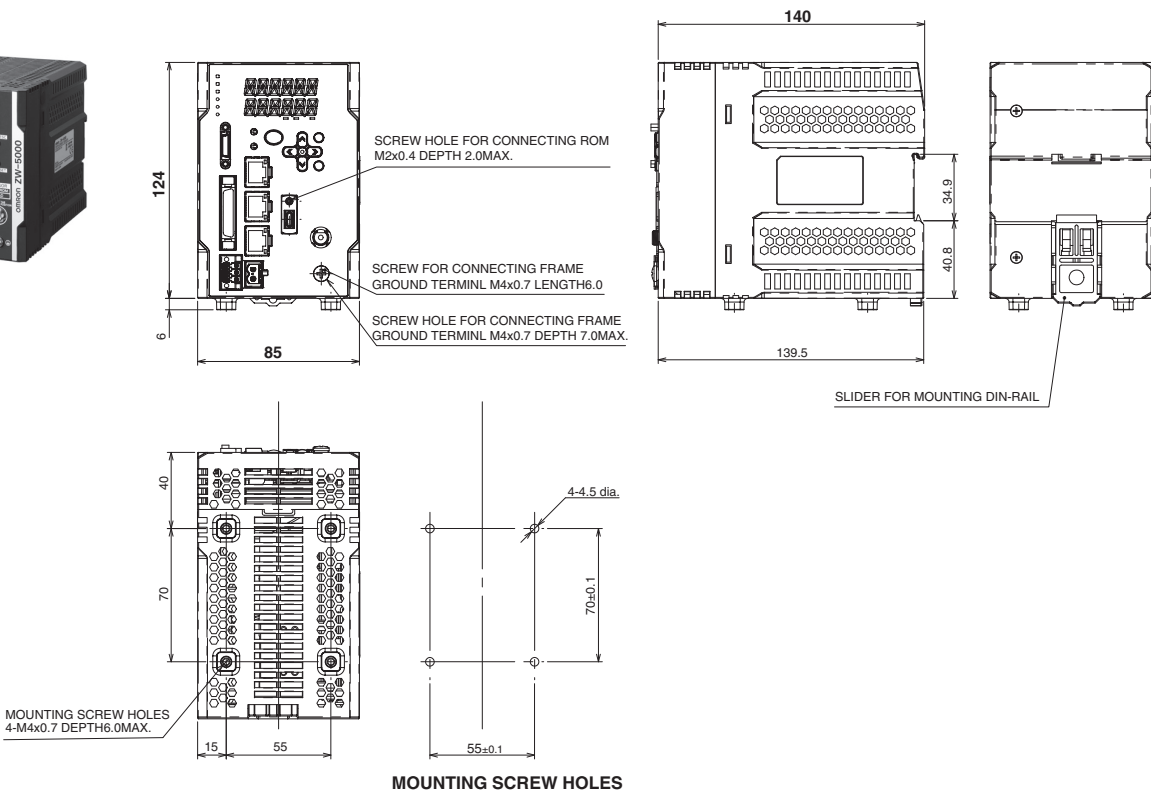
ZW-7000/5000 Series

Controller

ZW-7000T

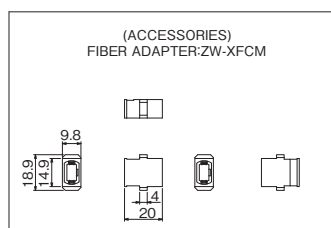
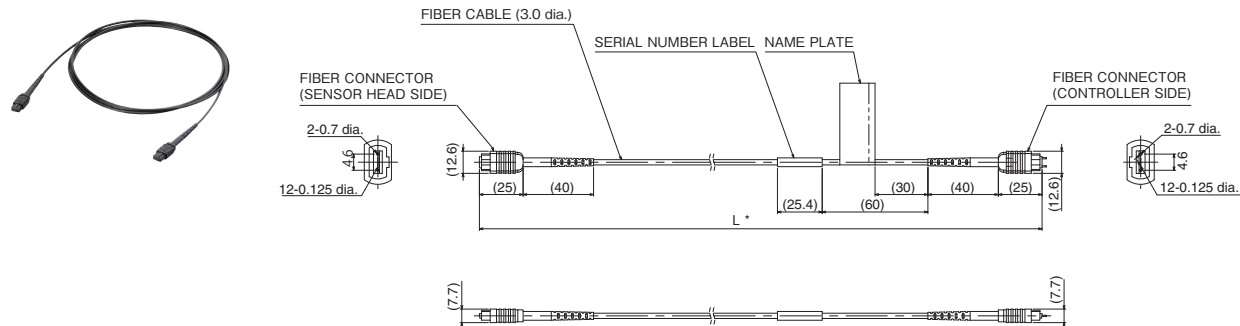


ZW-5000T



Extension Fiber Cable

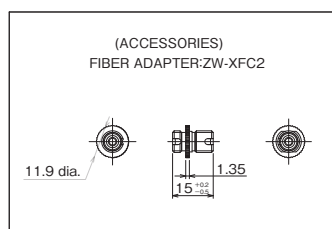
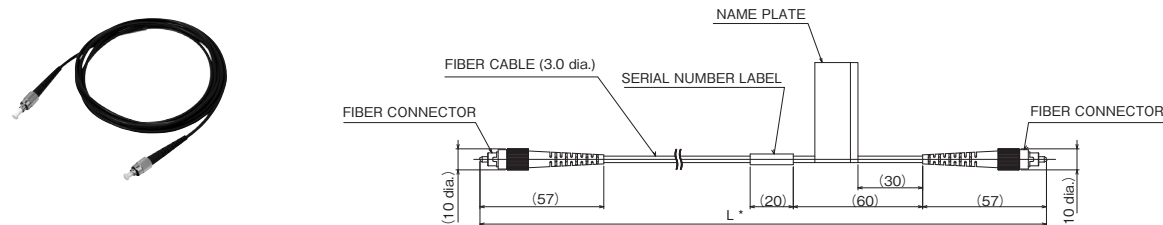
ZW-XF7002R/XF7005R/XF7010R/XF7020R/XF7030R



* The following table lists cable lengths per models.

Type	Specification	L
ZW-XF7002R	2 m	2000+40/0
ZW-XF7005R	5 m	5000+100/0
ZW-XF7010R	10 m	10000+200/0
ZW-XF7020R	20 m	20000+400/0
ZW-XF7030R	30 m	30000+600/0

ZW-XF5002R/XF5005R/XF5010R/XF5020R/XF5030R



* The following table lists cable lengths per models.

Type	Specification	L
ZW-XF5002R	2 m	2000+200/0
ZW-XF5005R	5 m	5000+200/0
ZW-XF5010R	10 m	10000+200/0
ZW-XF5020R	20 m	20000+500/0
ZW-XF5030R	30 m	30000+500/0

Related Manuals

Man.No.	Model number	Manual
Z362	ZW-7000□/5000□	Displacement Sensor ZW-7000/5000 User's Manual
Z363	ZW-7000□/5000□	Displacement Sensor ZW-7000/5000 User's Manual for Communications Settings
W504	SYSMAC-SE2	Sysmac Studio Version 1 Operation Manual

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• The angle characteristic and linearity, described in the front cover, are the typical values of the ZW-S7010 Sensor Head.

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