

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Amikon cover with selected official Yokogawa pages

YOKOGAWA DTSX

DTSBM10-N0N S1

BASE MODULE

Selected official pages cover the DTSX system, DTSBM10 ordering code, specifications, dimensions, compatible modules and installation precautions.

General Specifications

GS 39J06B45-01E

DTSXM
Distributed Temperature Sensor
Middle Range System



■ GENERAL

This General Specification (GS) describes the DTSXM Distributed Temperature Sensor Middle Range System. For information on its associated software, read GS 39J02B45-01E.



■ FEATURES

The DTSXM Distributed Temperature Sensor Middle Range System (DTSXM System) measures the temperature distribution over the length of an optical fiber using the optical fiber itself as the sensing element. The module can be combined with appropriate power supply and optical switch modules to configure a required system. It can be accessed using the optional DTSX200 Control Visualization Software (DTAP200) or via the communications interface of a host computer.

- Easy to integrate in process control system
- Wide Temperature range operation
- Compact and low power consumption

■ CONFIGURATION

The following table lists the hardware and software for configuring a DTSXM System.

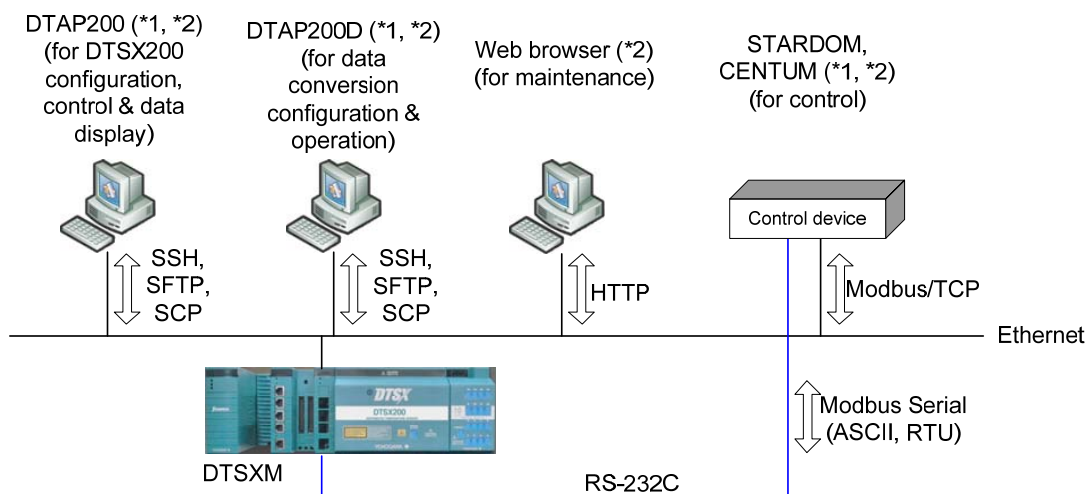
Component	Quantity	Description
Distributed temperature sensor (DTSX200)	1	Required
Optical switch module (DTOS2, DTOS4, DTOS16)	1	Optional. Select one optical switch module unit for switching between 2, 4 or 16 channels.
Base module (DTSBM10)	1	Required
Power supply module (NFPW426, NFPW441, NFPW442, NFPW444)	1	One power supply module is required (*1). For details, see GS 34P02Q12-01E or GS 34P02Q13-01E.
CPU module (NFCP050)	1	Optional. For details, see GS 34P02Q13-01E.
Rack mount kit (DTRK10)	1	Optional tray for mounting optical fiber cables.
DTSX200 Control Visualization Software (DTAP200)	1	Optional software for configuring measurement and displaying measurement results. For details, see GS 39J02B45-01E.
DTSX200 data conversion software (DTAP200D)	1	Optional software for converting measurement data into WITSML format. For details, see GS 39J02B45-01E.

*1: Dual-redundant configuration is not allowed for the power supply module.

● System Application Example

The DTSXM System performs temperature profile measurement according to instructions from control and monitoring stations.

A control and monitoring station polls the DTSX200 of the DTSXM System constantly and when measurement data is available, it retrieves and displays the data. The DTSX200 can also convert data to WITSML format (when used with the optional DTAP200D data conversion software) for transmission to a host data server.



System Configuration Example

(*1) Requires separate purchase.

(*2) Neither hardware nor software is included in this specification.

With built-in support for the Modbus protocol, the DTSX200 can communicate with STARDOM and CENTUM. If a CPU module (NFCP050) is connected to the base module (DTSBM10), the CPU module can communicate with the DTSX200 Distributed Temperature Sensor using the Modbus (Modbus serial or Modbus/TCP) protocol via an RS-232C or Ethernet connection.

● System Requirements for DTSXM System Maintenance

The DTSX200 can be accessed using a Web browser for backup, restore, network configuration and other maintenance operations.

■ BASE MODULE FOR DTSX200 (DTSBM10)

● General

The base module for DTSX200 is used for mounting various function modules including the DTSX200 Distributed Temperature Sensor, power supply modules, optical switch modules and CPU modules.

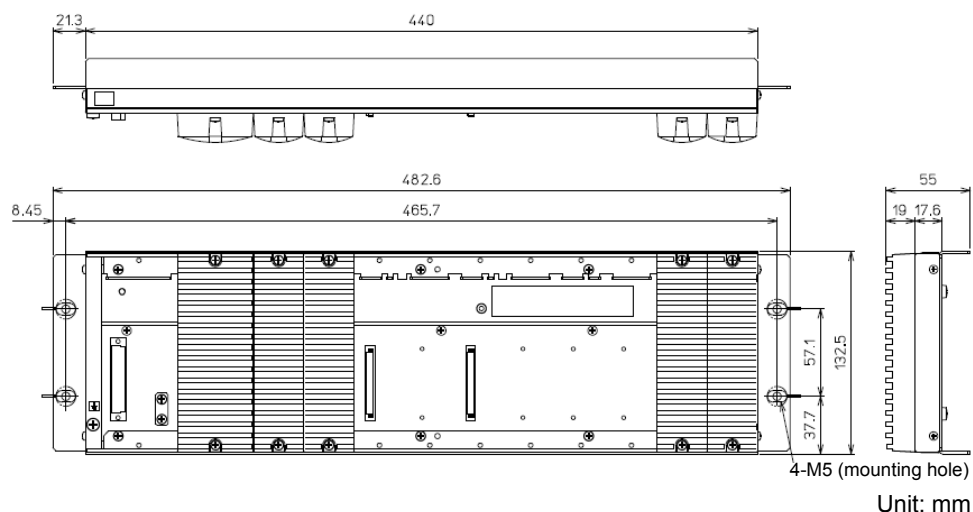
● Model and Suffix Codes

		Description
Model	DTSBM10	Base module for DTSX200
Suffix Codes	-N	Standard type
	0	Standard type
	9	EAC mark
	N	Basic type
	G	With ISA Standard G3 option

● Specification

Item		Specifications
Power supply	Consumption	0.3 W
Dimensions (W x H x D)		482.6 x 132.5 x 55.0 mm
Weight		2.3 kg

● External Dimensions



● Other Information

Only power supply modules (NFPW426, NFPW441, NFPW442 and NFPW444) and CPU modules (NFCP050) but no other STARDOM module can be mounted on the base module (DTSBM10). Dual-redundant configuration for power supply modules and DIN rail mounting are not allowed.

● High Altitude (2000 m to 3000 m) Selection

DTSX200 Distributed Temperature Sensor	Power supply module	Base module for DTSX200	Optical switch module	CPU module	CPU module	Optical fiber for DTSX	Control Visualization Software	Data conversion software
DTSX200	NFPW426	DTSBM10	DTOS2 DTOS4 DTOS16	NFCP050	DTRK10	DTFB10	DTAP200	DTAP200D
◎	◎	◎	▲	△	△	△	△	△

● List of Modules and Modules Descriptions

Type	Model	Function	Explosion Protection		
			FM NI	ATEX Type "n"	CSA NI
DTSX200 Distributed Temperature Sensor	DTSX200	Distributed temperature sensor	㇏	㇏	㇏
Power supply module	NFPW426	Power supply module (10 to 30 V DC input)	㇏	㇏	㇏
	NFPW441	Power supply module (100 to 120 V AC input)	㇏	-	㇏
	NFPW442	Power supply module (220 to 240 V AC input)	-	-	-
	NFPW444	Power supply module (21.6 to 31.2 V DC input)	㇏	㇏	㇏
Base module for DTSX200	DTSBM10	Base module for DTSX200	㇏	㇏	㇏
Optical switch module	DTOS2	Optical switch module (2ch)	㇏	㇏	㇏
	DTOS4	Optical switch module (4ch)	㇏	㇏	㇏
	DTOS16	Optical switch module (16ch)	㇏	㇏	㇏
CPU module	NFCP050	CPU module	㇏	㇏	㇏
Rack mount kit	DTRK10	Rack mount for optical fiber	N.A.	N.A.	N.A.
Optical fiber for DTSX	DTFB10	Optical fiber for DTSX	N.A.	N.A.	N.A.

㇏: conforming

- : Not conforming yet

N.A.: Not applicable

For the details of the power supply modules and the CPU module, see GS 34P02Q13-01E and GS 34P02Q12-01E.

■ CABLING AND INSTALLATION PRECAUTIONS

For details on cable connection and installation procedures, see IM 39J06B45-01E.

For details on how to install power supply modules and CPU modules, also see TI 34P02Q91E.

■ OPTICAL FIBER HANDLING PRECAUTIONS

- Use optical connectors and optical fibers specified in the product specification.
- Clean the endface of the optical connector to remove dirt, dust, oil film and other contaminants before connection.
- Ensure that the endface of the optical connector is free of scratch marks. Otherwise, it may damage the peer optical connector.
- Ensure that optical connectors are securely connected and locked.
- Follow proper procedures when laying optical fiber cables. Do not subject the cable to excessive tension, lateral pressure, tight bending or twisting.