

NTB-500A

Medium Speed Network Terminal Box



Medium speed sampling support for all channels synchronously

- Support for CAN communications
- Synchronous measurement of all channels at a max. 1 k Hz.
- 8 channels in a single unit (8 units synchronously, 64 channels)
- One-wire dispersion
- DCS-100A support (Dynamic Data Acquisition Software)
- Measurement of high strain (300 k $\mu\text{m}/\text{m}$)
- Strain, voltage, and thermocouple units provided

Specifications

Measuring Targets and measuring unit

Measuring Targets		Measuring unit	Strain unit NTB-50B	Voltage/thermocouple Unit NTB-51A
Strain gages	Quarter bridge 120 Ω	2-wire system	Yes	
		3-wire system	Yes	
Strain-gage transducers	Half-bridge 120 to 1000 Ω	Active-active system	Yes	
	Full-bridge 120 to 1000 Ω	Full bridge	Yes	
Voltage		± 10.0000 V		Yes
		± 50.0000 V		Yes
Temperature	Thermocouples	K		Yes
		T		Yes

Channels Max. 8 channels/unit
Mixed combination of up to 2 measuring units is possible.

synchronous Operation Max. 8 units, 64 channels

Sampling Frequencies 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 Hz
(Synchronous sampling of all channels)

Sampling Frequencies (Hz)	Maximum measured channels		
	Cable length =20 m	Cable length =80 m	Cable length =100 m
1000	8	4	
500	16	8	4
200	40	20	8
100	64	40	20
50	64	64	40
20 to 1	64	64	64

Cable Length Total extended cable length, max. 100 m

TEDS Reads information from TEDS-installed sensors
Channel name writing If the manufacturer's ID is from Kyowa and NTB-50B installed

Interfaces Bosch 2.0B active support (ISO-11898 -compliant high-speed CAN)

Data Save Measurement data is saved on a PC (No internal storage)

Operating Temperature -10 to 50°C

Operating Humidity 20 to 85%RH (Non-condensing)

Power Supply 11 to 16 VDC

Current Consumption (When using 12 VDC)

Measuring unit	Stand-by	Measuring
With 2 NTB-50B installed	200 mA or less	230 mA or less
With 2 NTB-51A installed	250 mA or less	300 mA or less

Dimensions 175 W x 28.7 H x 106.4 D mm (Excluding protrusions)

Weight Approx. 490 g

Strain Unit NTB-50B specifications

Model	NTB-50B	
Channels	4	
Measuring Targets	Strain gages Strain-gage transducers	
Applicable Gages	Quarter-bridge 120 Ω , 2-wire, 3-wire Half-bridge, Full-bridge 120 to 1000 Ω	
Applicable Gage Factor	2.00 fixed	
Bridge Excitation	2 VDC \pm 1%	
Check Functions	Cable disconnection check	
TEDS	Reads information from TEDS-installed sensors Channel name writing if the manufacturer's ID is from Kyowa	
Measuring Range, Resolution, and Range Accuracy		
	Measurement range	Resolution
	30 k $\mu\text{m}/\text{m}$	0.1 $\mu\text{m}/\text{m}$
	300 k $\mu\text{m}/\text{m}$	1 $\mu\text{m}/\text{m}$
	Range accuracy	
	$\pm 0.1\%$ FS	
Response Frequencies	DC 100 Hz (Deviation +1dB, -3dB)	
Dimensions	152.2 W x 6.1 H x 45 D mm (Excluding protrusions)	
Weight	Approx. 85 g	

Voltage/Thermocouple Unit NTB-51A specifications

Model	NTB-51A			
Channels	4			
Measuring Targets	Voltage, thermocouples (K, T)			
Check Functions	Burnout check			
TEDS	N/A			
Measuring Range, Resolution, and Accuracy				
■ At voltage measurement	Measuring range	Resolution	Range accuracy	Input resistance
	10 V	100 μV	$\pm 0.1\%$ FS	Approx. 1 M Ω
	50 V	1 mV		
■ At thermocouple measurement	Type	Measuring range	Accuracy	Resolution
			External standard junction	Internal reference junction range, temp. (25\pm10)$^{\circ}$C
	K	-200.0 to 1230.0 $^{\circ}$ C	$\pm 0.5\%$ of reading +1.0 $^{\circ}$ C	$\pm (0.5\%$ of reading +2.0) $^{\circ}$ C (At input terminal temp. balance)
	T	-200.0 to 400.0 $^{\circ}$ C		0.1 $^{\circ}$ C
	*Accuracy doesn't include the accuracy of the thermocouple *Switching between internal and external reference junction compensator is possible *Thermocouple resistance 1 k Ω or less			
Response Frequencies	At voltage measurement: DC to 100 Hz (Deviation +1dB, -3dB) At thermocouple measurement: DC to 10 Hz (Deviation +0.5dB, -1dB)			
Isolation	Between channels: 50 M Ω or more (500 VDC)			
Dimensions	152.2 W x 6.1 H x 45 D mm (Excluding protrusions)			
Weight	Approx. 95 g			

Standard Accessories

- DC power cable: P-76
- Ground wire: P-72
- NTB-500A dummy panel (NTB500-DUMMY): 1*
- * NTB-500A dummy panel is mounted on a vacant slot before shipment

- Wire connection seal: 1
- Rubber feet: 4
- Driver holder (With a mini driver): 1
- Simplified software
- Driver for a USB/CAN converter
- Dynamic Data Acquisition Software: DCS-100A (DVD)**
- Instruction manual
- ** For NTB-500A, standard accessory. For NTB-500A-0, optional accessory.





Optional Accessories

- NTB-500A sync communications cable: N-119 (1 m)
Note: please contact us if other than the cable lengths above are required.
- NTB-500A sync Y-cable: N-120 (One side 0.1 m)
- Connection cable: N-38 (1 m)
- AC adapter: SA-10A-EDS (100 to 240 VAC)
- Strain unit: NTB-50B
- Voltage/thermocouple unit: NTB-51A
- Docking board for 2 boxes of NTB-500A:
CN-10A: For connecting 2 boxes of NTB-500A
- Docking board for 4 boxes of NTB-500A:
CN-11A: For connecting 4 boxes of NTB-500A
- NTB-500A dummy panel: NTB500-DUMMY
- DIN rail mounting plate: DRA-1
- DIN rail (35 mm)
- Terminal resistor: CANTERM 120
- USB/CAN converter: LEAF LIGHT HS V2
- Data analysis software: DAS-200A

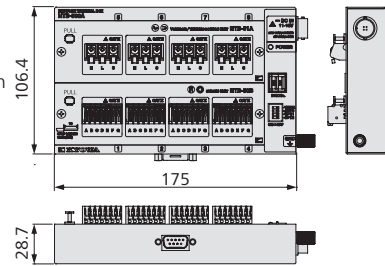
DCS-100A software for NTB-500A section
For details of DCS-100A, see page 4-3.

Controllable Units	Max. 8 (Max. 64 channels)
Interfaces	CAN, a specified USB/CAN converter is required.
Data Storage	Measured data is saved data folder in the PC in KS2 format.
Channel Conditions	Measurement ON/OFF, mode, range, zero, LPF, calibration coefficient, offset, units, CH name, measuring range, decimal point, rated capacity, rated output, chk.val.(Up), chk.val. (Down), (Selection of any display items is possible)
Sampling Frequencies	1 Hz to 1 kHz (Depends on the measuring channels and the cable length)
Measuring Modes	Manual, manual (Data points preset), interval, and analog trigger
Manual Measurement	Measurement is made from a press of the REC button to a press of the STOP button or to completion of recording to the preset data points.
Interval Measurement	Measurement is made automatically at preset intervals from the preset starting time. (Measuring interval of 5-step and 1-step are switchable.)
Analog Trigger Measurement	Start and/or stop recording based on specified trigger conditions
End Trigger	Settable
Delay	Both start and end max. 262144 points/channel The delay differs with the measuring channels.
Trigger Channels	Any channel
Trigger Level	Sets in physical quantities
Trigger Slope	Up, down

Dimensions (Excluding protrusions)

NTB-500A

NTB-50B, NTB-51A
Exterior appearance with 1 unit installed



TEDS	Reads sensor's information and sets to channel condition automatically
Changing Stroke	Changes the data before the stroke and after the stroke, when using a displacement transducer.
Static Measurement	Every time the DCS-100A starts recording data, the DCS-100A additionally saves the moving-averaged measured data in a single CSV format file in manual and interval modes.
Repetition Acquisition	In long-term data acquisition, a specified amount of data (Or time) is saved in KS2 file . Workable in manual mode (Data points preset).
Environment Settings	Hardware configuration Setting of connected units, communications cable length, device name, measuring unit settings, and reading hardware configuration from the NTB-500A are possible

