# MCF-B
## Multi Signal Conditioner


MCF-16B


MCF-8B

### Compact and lightweight multi-channel types with easy operation for use in various fields

- Channels: 8, 16 per unit (max. 256)
- Easy setup: Save time compared to conventional models.
- Four CAL digits; set sensor calibration values as is
- PC set/control for easier multipoint measurement
- Input open detection function detects disconnected measured objects (DPM-91A/92A)

Portable conditioners enable high-performance conditioner systems by inserting conditioner cards into the unit base.
We offer fixtures and handles for various installations.
The CAL LOCK function can be used to maintain output calibration values.

■Model

| Unit Base | Conditioner Card |
|---|---|


**MCF-8B**
(Up to 8 conditioner cards)


**MCF-16B**
(Up to 16 conditioner cards)

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PC
(Up to 16 unit can be controlled*4)


Strain Amplifier Card*1*2
**DPM-91A/91A-I**
(Carrier frequency 2.5 kHz)


Strain Amplifier Card*1*2
**DPM-92A/92A-I**
(Carrier frequency 5 kHz)


Signal Conditioner Card
**CDV-90A**


Thermocouple Card*3
**CTA-90A**


IEPE Accelerometer Card
**CCA-90A**


F/V Converter Card
**CFV-90A**

*1 The carrier frequencies are different. Please be sure DPM-91A and DPM-92A are not mounted in the same unit base. The suffix "-I" means with feature of robustness against inverter noise.
*2 When using strain gages, use bridge boxes.
*3 When mounting the CTA-90A and an empty channel exists, be sure to mount the dummy card.
*4 The software for the command control functions should prepared by yourself. We have released the control commands. To use the command control functions, you may require to update the firmware of conditioner cards. Note that the update should be handled by KYOWA (with charge).

## MCF-8B/16B Specifications

| | |
|---|---|
| Model | MCF-8B |
| | MCF-16B |
| Mountable Conditioner Cards | MCF-8B: 8 |
| | MCF-16B: 16 |
| Compatible Conditioner Cards | |

| Card Model | Compatible Firmware |
|---|---|
| DPM-91A, DPM-91A-I<br>DPM-92A, DPM-92A-I | Ver.03.00 or later |
| CDV-90A | Ver.03.00 or later |
| CTA-90A | Ver.01.02 or later |
| CFV-90A | Ver.03.01 or later |
| CCA-90A | Ver.03.00 or later |

| | |
|---|---|
| Monitor Meter | Indicate output voltage of selected any channel |
| | by 1-digit sign and 4-digit value. |
| | When error occurs, error No. and message are |
| | indicated. |
| Control Switches | (Front) |
| | CH select: Switching channels that indicate on |
| | the monitor meter. |
| | BAL: Balance adjustment is executed all |
| | channels simultaneously. |
| | +CAL, -CAL: Calibration output is executed all |
| | channels simultaneously. |
| | KEY LOCK: When set to ON, no operation |
| | switches are available. |
| | (Rear) |
| | OSC select: To select the oscillator signal |
| | internal or external. |
| | COM change-over: To change open or short |
| | between COM terminal and GND terminal. |
| Channel Indication | CH LED lights up when the channel is monitored. |
| Key-lock Indication | KEYLOCK LED lights up when Key-lock set to ON. |
| PHYSICAL QUANTITY Indication | |
| | PHYSICAL QUANTITY LED lights up when the |
| | conditioner card in TEDS mode. |
| Master Indication | OSC INT LED lights up when use DPM card and |
| | when OSC select switch sets to INT as internal |
| | oscillator. |
| Other Function | Automatically select carrier frequency according |
| | to the types of the connected DPM card. |

### Command Control Function

| | |
|---|---|
| Signaling System | RS-485 half duplex system |
| Communication Speed | 9600 bps |
| Character Length | 8 bit |
| Parity | None |
| Stop Bit | 1 bit |
| Delimiter | CR: Command output to the MCF-B. |
| | CR+LF: Data output from the MCF-B. |
| Device ID | 0 to F (up to 16 units can be controlled by one |
| | computer) |
| | *Device IDs are set using the DIP switches in the |
| | monitor display section. |
| Communication Range | Up to 200 m |
| Command | Start command control |
| | End command control |
| | Select monitor display channel |
| | Get card type |
| | Get connected models |
| | Get version |
| | Get error number |
| | Get voltage |
| | Execute balance adjustment (DPM-90A series, |
| | CDV-90A) |
| | Set calibration output |
| | (DPM-90A series, CDV-90A, CTA-90A, CFV-90A, |
| | CCA-90A) |
| | Set internal gain |
| | (DPM-90A series, CDV-90A, CTA-90A, CFV-90A, |
| | CCA-90A) |
| | Perform zero-point adjustment |
| | (DPM-90A series, CDV-90A, CFV-90A, CCA-90A) |
| | Perform internal gain adjustment |
| | (DPM-90A series, CDV-90A, CTA-90A, CCA-90) |
| | Set bridge voltage (CDV-90A) |
| | Switch TEDS mode on/off (DPM-90A series, |
| | CDV-90A, CCA-90A) |
| | Load TEDS information (DPM-90A series, |
| | CDV-90A, CCA-90A) |
| | Set low-pass filter cutoff frequency |
| | (DPM-90A series, CDV-90A, CCA-90A) |
| | Set high-pass filter cutoff frequency |
| | (DPM-90A series, CDV-90A) |
| | Select thermocouple type (CTA-90A) |
| | Switch measurement range (CFV-90A) |
| | Set input coupling (CFV-90A) |
| | Set trigger level (CFV-90A) |
| Switch Status in Command Control Mode | |
| | Switch operations are locked (except for |
| | [CH SELECT] switches). |
| Notification in Command Control Mode | |
| | [KEY LOCK] LED flashes. |
| Exiting Command Control Mode | |
| | Canceled by command or using switch. |
| Settings After Exiting Command Control Mode | |
| | Retains most recent settings. |
| Vibration Resistance | 49.03 m/s² (5 G) 5 to 55 Hz |
| | 15 cycles each in X, Y, Z directions, 1 minute/cycle |
| Operating Temperature | -10 to 50°C |
| Operating Humidity | 20 to 85% (Non-condensing) |
| Storage Temperature | -20 to 60°C |
| Power Supply | 10 to 30 VDC |
| Current Consumption | MCF-8B: 1.5 A or less |
| | MCF-16B: 3 A or less |
| | (Fully equipped with CDV-90A cards, |
| | bridge excitation = 2 V, bridge resistance 60 Ω, |
| | power supply 15 VDC.) |
| Connector | Centralized output connector |
| | (MDR connector, pin count 26, female) |
| | BNC connector |
| Dimensions | MCF-8B: 246.4(W)×101 (H)×170 (D) mm |
| | (Excluding protrusions.) |
| | MCF-16B: 440(W)×101 (H)×170 (D) mm |
| | (Excluding protrusions.) |
| Weight | MCF-8B: Approx. 5 kg |
| | (With 8 DPM-91A cards mounted.) |
| | MCF-16B: Approx. 8 kg |
| | (With 16 DPM-91A cards mounted.) |
| | (With 16 DPM-91A cards mounted, MCF-16B) |
| Compliance | Directive 2014/30/EU (EMC) |
| | Directive 2011/65/EU, (EU) 2015/863 |
| | (10 restricted substances) (RoHS) |

**Standard Accessories** DC power cable P-76 (Approx. 1.8 m)
Ground wire P-72 (Approx. 5 m)
Synchronous cable U-59 (Approx. 1.5 m)
Connector for concentralized output cable
Spare fuse
Instruction manual (CD-R)

**Optional Accessories** AC adapter UNI360-1540-AC
(For use outside Japan, purchase an optional AC power cable.)
1 channel dummy card MCF-DUMMY2
RS-485 communication cable for MCF N-136 (Approx. 1 m)
RS-485 communication Y cable for MCF N-137 (Approx. 0.3 m)
Independent left/right rack fixture MCF-BKT
MCF handle fixture MCF-HANDLE
Fixture for JIS rack for MCF-16B MCF-JIS
Fixture for DIN rack for MCF-16B MCF-DIN

## DPM-91A(-I)/92A(-I) Specifications

| | |
|---|---|
| Models | DPM-91A (-I) |
| | DPM-92A (-I) |
| Measuring Target | Strain gages (A separate bridge box is necessary.) |
| | Strain gage transducers |
| Channels | 1 |
| Compatible Bridge Resistance | 60 to 1000 Ω |
| Gage Factor | 2.00 fixed |
| Bridge Excitation | 2 $V_{rms}$ |
| Balance Adjustment | Resistance: Within ±2% (Within ±10000 $\times10^{-6}$ strain) |
| | Capacitance: 2000 pF or less |
| | (Bridge resistance 120 Ω) |
| Balance Adjustment Methods | Resistance: Auto balance |
| | (Stored in nonvolatile memory) |
| | Accuracy: Within ±0.5 $\times10^{-6}$ strain |
| | (When 100 $\times10^{-6}$ strain input and 5 V output.) |
| | Capacitance: CST (Capacitance self tracking) |
| Frequency Response | |
| | DPM-91A(-I): DC to 2.5k Hz (Deviation within ±10%) |
| | DPM-92A(-I): DC to 5k Hz (Deviation within ±10%) |
| Carrier Frequency | DPM-91A(-I): 5 kHz |
| | DPM-92A(-I): 12 kHz |
| Nonlinearity | Within ±0.2% FS |
| Calibration Strain | ±(1 to 9999 $\times10^{-6}$ strain) |
| | Accuracy: Within ± (0.5% + 0.5 $\times10^{-6}$ strain) |
| Sensitivity Adjustment | Sensitivity of amplifier is set from the combination |
| | setting of INPUT switch (4-digit thumbwheel switch) |
| | and OUTPUT switch (3-digit thumbwheel switch). |
| | OUTPUT switch range: 1.00 to 5.00 V in 0.01-V step |
| | INPUT switch range: 100 to 9999 $\times10^{-6}$ strain in 1 $\times10^{-6}$ strain step |
| | Accuracy: Within ±(0.5%+5 mV) |
| | Range: ×200 to ×50000 |
| Fine Sensitivity Adjustment | ×0.4 to ×1 |
| Low-pass Filter | Transfer characteristic: 2nd order Butterworth |
| | Cutoff frequency: 10, 30, 100, 300, 1 k Hz and FLAT (6 steps) |
| | Amplitude ratio: -3 ±1 dB (At cutoff point.) |
| | Attenuation: -12 ±1 dB/oct. (DPM-91A(-I): Except set at 1k Hz.) |
| High-pass Filter | Cutoff frequency: 0.2 Hz and OFF (2 steps) |
| SN Ratio | DPM-91A: 49 $dB_{p-p}$ or more |
| | DPM-91A-I: 44 $dB_{p-p}$ or more |
| | DPM-92A: 45 $dB_{p-p}$ or more |
| | DPM-92A-I: 40 $dB_{p-p}$ or more |
| | (When 200 $\times10^{-6}$ strain input and 5 V output, |
| | 120 Ω short.) |
| Stability | Temperature Zero point: Within ±0.1 $\times10^{-6}$ strain/℃ |
| | Sensitivity: Within ±0.05%/℃ |
| | Time Zero point: Within ±1 $\times10^{-6}$ strain/8 h |
| | Sensitivity: Within ±0.3%/8 h |
| | (When 100 $\times10^{-6}$ strain input and 5 V output, zero point is |
| | measured by 120 Ω short, sensitivity is measured by 120 Ω |
| | bridge.) |
| Output | Dual output (The same voltage is output to BNC connector |
| | and concentralized output connector.) |
| | Output voltage: Within ±5 V or over (Load 5k Ω or more) |
| | Zero adjustment: Within ±0.1 V or over |
| Output Off Function | Available |
| Output Impedance | 2 Ω or less |
| Withstand Voltage | 500 VAC within 1 min in: |
| | Between input and output. |
| | Between input and case. |
| | Between output and case. |
| Over Input Indication | LED lights up. |
| TEDS | Reads the sensor's TEDS information then |
| | sets the rated output to OUTPUT switch as |
| | output voltage. |
| Input Open Detection Function | Saturates output in the negative direction |
| | when input is open. |
| Connector Shape | Input connector: NDIS4102 (7 pins) |
| | Output connector: BNC |
| Dimensions | 24 W × 96 H × 170 D mm (Excluding protrusions) |
| Weight | Approx. 190 g |
| Compliance | Directive 2014/30/EU (EMC) |
| | Directive 2011/65/EU, (EU)2015/863 |
| | (10 restricted substances) (RoHS) |

**Standard Accessories** Output cable U-59

## CCA-90A Specifications

| | |
|---|---|
| Channels | 1 |
| Measurement Target | IEPE accelerometer (built in amplifier type) |
| | Max. ±5000 mV |
| | *Charge converter is necessary when using |
| | charge output accelerometer. |
| | Recommended item: CAC1R0 |
| | (Fuji ceramics corporation) |
| Input | Input format: Unbalanced input |
| | Sensor supply: Built-in constant-current supply |
| | Constant current: 4 mA |
| | Excitation voltage: Approx. 24 VDC |
| Frequency Response | 0.2 Hz to 50 kHz (Deviation +1, -3 dB) |
| Sensitivity Adjustment | Sensitivity of amplifier is set from the combination setting |
| | of INPUT switch (4-digit thumbwheel switch) and |
| | OUTPUT switch (3-digit thumbwheel switch). |
| | OUTPUT switch range: 1.00 to 5.00 V in 0.01-V step |
| | INPUT switch range: 20 to 5000 mV in 1-mV step |
| | Accuracy: Within ±(0.5% +5 mV) |
| | Range: ×1 to ×250 |
| Fine Sensitivity Adjustment | ×0.4 to ×1 |
| Calibration (DC CAL) | ±(1 to 5000 mV) |
| | Accuracy: Within ±0.3% FS |
| Low-pass Filter | Transfer characteristic: 2nd butterworth |
| | Cutoff frequency: 300, 1k, 3k, 10k Hz and |
| | FLAT (5 step) |
| | Amplitude ratio of the cutoff frequency: -3 ±1 dB |
| | Attenuation: -12 ±1 dB/oct. |
| Distortion Ratio | Within 1% (When ±5 V output) |
| SN Ratio | 48 $dB_{p-p}$ or more |
| | (When 20 mV input and 5 V output) |
| Stability | Temperature Zero point: Within ±0.5 mV/℃ |
| | Sensitivity: Within ±0.05%/ ℃ |
| | Time Zero point: Within ±5 mV/8 h |
| | Sensitivity: Within ±0.5%/8 h |
| | (When 20 mV input and 5 V output, zero point is measured by 1 kΩ short) |
| TEDS | By reading the TEDS information of the sensor, |
| | display on the monitor meter to the value that |
| | converted the output voltage into the physical |
| | quantity |
| Output | Dual output (The same voltage is output to |
| | BNC connector and concentralized output connector.) |
| | Output voltage: Within ±5 V (Load 5 kΩ or more) |
| | Zero adjustment: Within ±0.1 V |
| Output Off Function | Available |
| Output Impedance | 2 Ω or less |
| Withstand Voltage | 500 VAC within one minute in: |
| | Between input and output; |
| | Between input and case; |
| | Between output and case. |
| Over Input Indication | LED lights up |
| Connector Shape | Input connector: BNC |
| | Output connector: BNC |
| Dimensions | 24 W × 96 H × 170 D mm (Excluding protrusions) |
| Weight | Approx. 140 g |
| Compliance | Directive 2014/30/EU (EMC) |
| | Directive 2011/65/EU, (EU)2015/863 |
| | (10 restricted substances) (RoHS) |

Note) The above product specification does not include the accuracy of the charge converter of option.

**Standard Accessories** Output cable U-59

## CDV-90A Specifications

| | |
|---|---|
| Measuring Target | Strain gages (A separate bridge box is necessary.) |
| | Strain-gage transducers |
| Channels | 1 |
| Gage Factor | 2.00 fixed |
| Balance Adjustment | Within ±2% (±10000 $\times 10^{-6}$ strain) |
| Balance Adjustment Methods | Resistance: Auto balance |
| | (Stored in nonvolatile memory) |
| | Accuracy: Within ±1 $\times 10^{-6}$ strain (When 10 V bridge |
| | excitation voltage, 200 $\times 10^{-6}$ strain input and 5 V output.) |
| Nonlinearity | Within ±0.05% FS |
| Input Impedance | 20 MΩ or more |
| Output Impedance | 2 Ω or less |
| Calibration Strain | ±(1 to 9999 $\times 10^{-6}$ strain) |
| | Accuracy: Within ±(0.3% + 1 $\times 10^{-6}$ strain) |
| Sensitivity Adjustment | sensitivity of amplifier is set from the combination |
| | setting of INPUT switch (4-digit thumbwheel switch) |
| | and OUTPUT switch (3-digit thumbwheel switch). |
| | OUTPUT switch range: 1.00 to 5.00 V in 0.01 V step |
| | INPUT switch range: 200 to 9999 $\times 10^{-6}$ strain in 1 $\times 10^{-6}$ strain step |
| | Accuracy: Within ±(0.5% + 5 mV) |
| | Range: ×200 to ×5000 |
| Fine Sensitivity Adjustment | ×0.4 to ×1 |
| Compatible Bridge Resistance | 300 Ω to 1 kΩ (When bridge excitation voltage is set as 10 V.) |
| | 60 Ω to 1 kΩ (When bridge excitation voltage is set as 2 V.) |
| Bridge Excitation Voltage | 2 or 10 VDC, switchable |
| Frequency Response | DC to 50 kHz (Deviation +0.5, -3 dB) |
| Output | Dual output (The same voltage is output to |
| | BNC connector and concentralized output connector.) |
| | Output voltage: Within ±5 V or over (Load 5k Ω or more) |
| | Zero adjustment: Within ±0.1 V or over |
| Low-pass Filter | Transfer characteristic: 2nd order Butterworth |
| | Cutoff frequency: 10, 30, 100, 300, 1 k, 3 k, 10k Hz |
| | and FLAT (8 steps) |
| | Cutoff accuracy: -3 ±1 dB (At cutoff point) |
| | Attenuation: -12 ±1 dB/oct. |
| High-pass Filter | Cutoff frequency: 0.2 Hz and OFF (2 steps) |
| Noise | 10 $\times 10^{-6}$ strain $_{p\text{-}p}$ (When 10 V bridge excitation |
| | voltage, 200 $\times 10^{-6}$ strain input, 5 V output and |
| | 350 Ω short.) |
| Stability | Temperature Zero point: Within ±1 $\times 10^{-6}$ strain/℃ |
| | Sensitivity: Within ±0.02%/℃ |
| | Time Zero point: Within ±10 $\times 10^{-6}$ strain/8 h |
| | Sensitivity: Within ±0.1%/8 h |
| | (When 2 V bridge excitation voltage, |
| | 1000 × $10^{-6}$ strain input and 5 V output. |
| | Zero point is measured by 350 Ω short, sensitivity |
| | is measured by 350 Ω bridge.) |
| Output Off Function | Available |
| Output Impedance | 2 Ω or less |
| Withstand Voltage | 500 VAC within one minute in: |
| | Between input and output. |
| | Between input and case. |
| | Between output and case. |
| Over Input Indication | LED lights up |
| TEDS | Reads the sensor's TEDS information then sets |
| | the rated output to OUTPUT switch as output |
| | voltage. |
| Input Open Detection Function | |
| | When input is open, output saturates to the negative side |
| Connector Shape | Input connector: NDIS4102 (7 pins) |
| | Output connector: BNC |
| Dimensions | 24 W × 96 H × 170 D mm (Excluding protrusions) |
| Weight | Approx. 150 g |
| Compliance | Directive 2014/30/EU (EMC) |
| | Directive 2011/65/EU, (EU)2015/863 |
| | (10 restricted substances) (RoHS) |

**Standard Accessories** Output cable U-59

## CFV-90A Specifications

| | |
|---|---|
| Channels | 1 |
| Measurement Target | AC signal |
| | Pulse signal (including open collector signal) |
| Frequency Range | 0.2 Hz to 100 kHz |
| | (When set to 1 V output and 20 kHz range, |
| | 100 kHz input can measure as 5 V.) |
| Input Voltage | ±0.5 to ±50 V |
| Input Coupling | AC or DC |
| | Select by switch operation. |
| Trigger Level (Input Detection Level) | |
| | 0.0 to 5.0 V in 0.1-V step |
| | Trigger level is set from the 2-digit thumbwheel |
| | switch. |
| | (When trigger level set to 5.1 V or more, trigger |
| | level saturates at 5.0 V.) |
| Non-linearity | Within ±0.1% FS |
| Sensitivity Adjustment (RANGE) | |
| | 500, 1k, 2k, 5k, 10k, 20 kHz (6 step) |
| | Full scale of the range is output with the |
| | voltage set with the OUTPUT switch (3-digit |
| | thumbwheel switch). |
| | Accuracy: Within ±(0.1% +5 mV) |
| | (Setting Example) |
| | When "SET" is executed with RANGE set to |
| | 20 kHz and OUTPUT switch set to 1.0 V, |
| | 1.0 V output at 20 kHz input, 5.0 V output at |
| | 100 kHz input. |
| Calibration (CAL) | 100% or 50% of each RANGE |
| | Accuracy: Within ±0.5% |
| Response Time | When frequency continuous: Less than one |
| | cycle of the input signal +25 μs (At the start of |
| | output voltage rising) |
| | When frequency cutoff: Less than two cycle of |
| | the input signal +25 μs (At the start of output |
| | voltage rising) |
| Power Supply for Sensor | 12 VDC ±10% (At load current is 50 mA or less.) |
| Noise | 30 $mV_{p\text{-}p}$ or less |
| | (When input the signal: Square wave, frequency |
| | 100 kHz, amplitude: ±0.5 V) |
| Stability | Temperature Zero point: Within ±0.01% FS/℃ |
| | Sensitivity: Within ±0.01%/℃ |
| | Time Zero point: Within ±0.05% FS/8 h |
| | Sensitivity: Within ±0.05%/8h |
| Output | Dual output (The same voltage is output to |
| | BNC connector and concentralized output |
| | connector.) |
| | Output voltage: Within 0 to 5 V |
| | (Load 5 kΩ or more) |
| | Zero adjustment: Within ±0.1 V |
| Output Off Function | Available |
| Output Impedance | 2 Ω or less |
| Withstand Voltage | 500 VAC within one minute in: |
| | Between input and output. |
| | Between input and case. |
| | Between output and case. |
| Over Input Indication | LED lights up |
| Connector Shape | Input connector: NDIS4109 (Small round 9 pins) |
| | Output connector: BNC |
| Dimensions | 24 W × 96 H × 170 D mm (Excluding protrusions) |
| Weight | Approx. 140 g |
| Compliance | Directive 2014/30/EU (EMC) |
| | Directive 2011/65/EU, (EU)2015/863 |
| | (10 restricted substances) (RoHS) |

Note) When using MCF-16B, CFV-90A maximum installed amount are 12 units. (When CFV-90A only installed.)
When using mixed the other conditioner card, CFV-90A maximum installed amount are 8 units. When using MCF-8B, no restriction on the number of units to be installed.

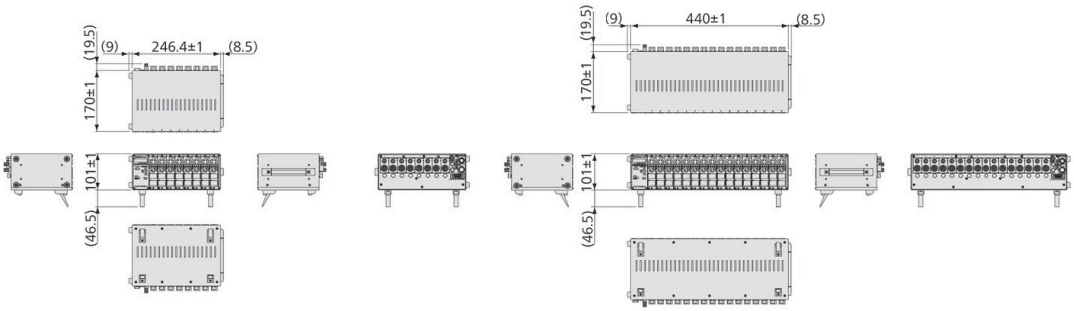
**Standard Accessories** Output cable U-59
Input connector plug 4109P

## CTA-90A Specifications

| | |
|---|---|
| Compatible Thermocouples | |
| | K, T, J, N, E, R |
| | (Thermocouple resistance is 1 kΩ or less) |
| Measurement Range | K: −200 to 1300°C, T: −200 to 400°C |
| | J: −200 to 1200°C, N: −200 to 1300°C |
| | E: −200 to 1000°C, R: 0 to 1700°C |
| Channels | 1 |
| Reference Junction Compensation | |
| | ±2.5°C (−10 to 50°C), ±1°C (20 ±3°C) |
| Output | Dual output (The same voltage is output to BNC |
| | connector and concentralized output connector.) |
| | Output voltage: within ±5 V or over (Load 5 kΩ or more) |
| Linearizer Accuracy | Within ±0.5% FS (With type K, J, N, E, R) |
| | Within ±1% FS (With type T) |
| Calibration | 100 to 1700°C from step up of 100°C |
| | (Full scale depends on the type of thermocouple.) |
| | Accuracy: Within ±0.5% FS |
| Sensitivity Adjustment | Sensitivity of amplifier is set from the combination |
| | setting of INPUT switch (2-digit thumbwheel switch) |
| | and OUTPUT switch (3-digit thumbwheel switch). |
| | OUTPUT switch range: 1.00 to 5.00 V in 0.01-V step |
| | INPUT switch range: 100 to 1700°C in 100°C step |
| | Accuracy: Within ±(0.5% + 5 mV) |
| Fine Sensitivity Adjustment | ×0.4 to ×1 |
| Frequency Response | DC to 10 Hz (Deviation +0.5, −1 dB) |
| Noise | 30 $mV_{p-p}$ or less (Input short) |
| Stability | Temperature Zero point: Within ±0.05% FS/°C |
| | Sensitivity: Within ±0.05%/°C |
| | Time Zero point: Within ±0.5% FS/8 h |
| | Sensitivity: Within ±0.5%/8 h |
| | (When type K, 1300°C input and 5 V output. Zero |
| | point is measured by the input of voltage with |
| | response of 0°C, sensitivity is measured by the |
| | input of voltage with response of 1300°C.) |
| Output Off Function | Available |
| Output impedance | 2 Ω or less |
| Withstand Voltage | 500 VAC within one minute in: |
| | Between input and output. |
| | Between input and case. |
| | Between output and case. |
| Over Input Indication | LED lights up |
| Connector Shape | Input connector: One-touch type terminal block |
| | Output connector: BNC |
| Dimensions | 24 W × 96 H × 170 D mm |
| | (Excluding protrusions) |
| Weight | Approx. 140 g |
| Compliance | Directive 2014/30/EU (EMC) |
| | Directive 2011/65/EU, (EU)2015/863 |
| | (10 restricted substances) (RoHS) |

**Standard Accessories** Output cable U-59

### Dimensions




MCF-8B MCF-16B