

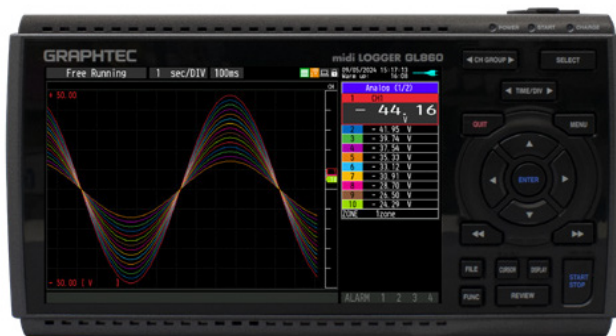


GL860
Isolierter Multi-CH-Datenlogger

GRAPHTEC

**Flexible Optionen
mit 4 Anschlüssen**

NEU
30CH
Terminal



Widerstandsfähig gegen Hoch-
spannung / Hochpräzises Terminal
B-565

30CH Schraubenloses-
Eingangsterminal
B-563SL-30

20CH Schrauben-
Eingangsterminal
B-563

20CH Schraubenloses-
Eingangsterminal
B-563SL



6 NEUE EIGENSCHAFTEN

Aufnahme-Optionen

- Schnelleres Abtastintervall
- Doppelt so schnell wie bei den Vorgängermodellen!

Maximum Sampling Interval of max. 5ms (*settings required)

By limiting the number of channels, data can be recorded in max. 5ms.

Sampling interval	5ms	10ms	20ms	50ms	100ms	250ms	0.5s	1s
Number of channels	1	2	4	10	20	50	100	200
Measuring	Voltage	•	•	•	•	•	•	•
	Temp.				•	•	•	•

- Speicherschleifen-Funktion
- Zusätzliche Relay Capture Funktion für längere Aufnahmen
- CH-Kopierfunktion
- Einfache Einrichtung durch Kopieren der Verstärkereinstellungen für den Zielkanal
- Alarmverlaufsfunction
- Einfaches Durchsuchen des Verlaufs von Datum und Uhrzeit abnormaler Ereignisse
- Verbesserter Inter-CH-Betrieb
- Vielfältigere Berechnungsoptionen als bei früheren Modellen
- Unterstützung von Modbus
- Kommunikationsfunktion mit Sequenzer über Modbus TCP

BENUTZERFREUNDLICHE FUNKTIONEN

- Langzeitaufnahmen sind möglich
- Integrierter 8-GB-Speicher oder SD-Karte

(data size: 2GB)

*Sampling interval is limited by the number of channels in use.

Sampling interval	5ms	10ms	50ms	100ms	200ms	500ms	1s	10s
GBD format	15days 2	4days 4	7days 5	4days	108days	270days	366+ days	366+ days
CSV format	1day	3days	8days	11days	22days	55days	111days	366+ days

DATENÜBERTRAGUNG



*B-568 (optional item) is required

PC SOFTWARE

- GL-Verbindung
- eine integrierte Anwendungssoftware für die GL-Serie.
- GL28-APS
- Die Anwendungssoftware zur Verbindung von GL-Serie und PC.



GL860 SPEZIFIKATIONEN

Item	Description
Number of analog inputs	Maximum 200ch available for 1 terminal(20ch/30ch) or extension unit
External input (*1)	Number of channels
	Trigger of Sampling (1 channel), or External Sample Inputs 1ch Logic / Pulse (4 channel)
	Pulse input
	Revolutions mode, Counts mode, Inst. mode
	Maximum input frequency: 50kHz
	Maximum number of count: 50kC/sampling
External output (*1)	Alarm output: 4ch
Sampling interval	5ms-1h (5ms-50ms: voltage only, limited number of CH), External signal
Scaling function	4 points can be set for each channel The temperature range scaling function is available.
A/D converter	$\Delta\Sigma$ method, 16Bit (Effective resolution: About 1/40000 of the +/- range)
PC I / F	Ethernet (10BASE-T / 100BASE-TX) USB2.0 (Hi-SPEED) ,Wireless LAN (Option)
Storage media (*2)	Storage
	Data format
	Built-in memory: approx. 8GB, SD card slot: 1
	GBD, CSV
Recording mode	Default, Ring, Relay
Other functions	Calculation function, Trigger, Alarm function, Data backup function (*3)
Display	7-inch TFT color LCD (WVGA: 800 x 480 dots)
Operating environment (including terminals)	0-45°C, 5-85%RH (0 to 40°C when operated in batteries/15 to 35°C when a battery is charging)
Power supply	AC adapter
	DC input
	Battery pack
	AC100-240V / 50-60Hz
	DC8.5-24V(Option: B-514 is required)
	DC7.2V(2875mAh)2 packs can be mounted (Optional item)
Power consumption	38VA or lower (when using the AC adapter, LCD ON, recharging battery, AC100V)
Dimensions [WxDxH] (approx.)	(*Refer to terminal specifications)
Weight (approx.)	(*Refer to terminal specifications)
Vibration resistance	Equivalent to Automobile parts Type 1 Class A

OPTIONEN

Item	Model	Description
GL wireless LAN unit	B-568	Standard: IEEE802.11b / g / n communication distance: approx. 40m(Depends on the situation)
Withstand high-voltage high-precision terminal	B-565	Analog input terminal
30CH SCREW LESS INPUT TERMINAL	B-563SL-30	Analog input terminal
20CH SCREW INPUT TERMINAL	B-563	Analog input terminal
20CH SCREW LESS INPUT TERMINAL	B-563SL	Analog input terminal
Base unit for input terminal	B-566	Used for attaching each input terminal
Input terminal cover	B-588	Mountable each analog terminal. Not mountable when B-551 Shunt resistor used
Connection cable for extension terminal (50cm)	B-567-05	Connection cable (50cm)
Connection cable for extension terminal (2m)	B-567-20	Connection cable (2m)
Battery Pack	B-569 / B-573	7.2 / 2900mAh / 7.2V / 2875mAh (2packs)
Bracket for DIN rail for main body	B-570	made-to-order
Bracket for DIN rail (for B-566)	B-540	made-to-order
Input/Output cable for GL series	B-513	2 m long (no clip on end of cable)
DC drive cable	B-514	2 m long (no clip on end of cable)
Humidity sensor(*4)	B-530	3 m long (with power plug)
mini LOGGER storage case(*5)	B-581	Support RoHS directive
Ultra-fine K type thermocouple	ST-55K-TC-1.2M	tip wire ϕ 0.127, 0.5X0.7X200mm, relaying 1m, -40 -260°C, class2, 5 units
Shunt resistor 250 Ω (*7)	B-551-10	$\pm$ 250 Ω (0.1%), Rated power of 1 W Maximum operating voltage15.8V
AC adapter for GL860	ACADP-20	Adapter for maintenance



SPEZIFIKATIONEN DER TERMINALS

*When using B-565 with other terminals, the lower withstand voltage will be applied.

	Withstand high-voltage high-precision terminal (B-565)	30CH SCREW LESS INPUT TERMINAL (B-563SL-30)	20CH SCREW INPUT TERMINAL (B-563)	20CH SCREW LESS INPUT TERMINAL (B-563SL)
Number of CHs	20ch/per terminal	30ch/per terminal	20ch/per terminal	
Measuring	Voltage	20mV-100V		
	Temp.	Thermocouple K•J•E•T•R•S•B•N•C (old: W(WRe5-26))		
		RTD (*three-wire system only)	(*RTD cannot be connected)	
		Pt100•JPt100•Pt1000(IEC751)		
	Humidity	0-100% (Optional humidity sensor B-530 is required)		
Max. input voltage	20mV - 2 V Range: 60Vp-p (between input terminal and (+) / (-) terminal), 5V -100 V range: 110Vp-p (between input terminal and (+) / (-) terminal)	600Vp-p (between input terminal and input terminal)	60Vp-p (between input terminal and input terminal)	
	300Vp-p (between input terminal and GND)	60Vp-p (between input terminal and GND)		
Volt. measurement accuracy	±(0.05%ofF.S.+10µV)	±0.1%ofF.S.		
Dimentions (approx.)	240x166x52.5mm (exclude protrusion)	240x158x52.5mm (exclude protrusion)		
Weight (approx.)	1035g (without AC adapter & battery)	1010g (without AC adapter & battery)		

*Weight and dimensions are the values including GL860.

FERNSTEUERUNGSDIENST (G-REMOTE)

(*Additional charge for use)

Item	Description
Supported OS(*6)	Windows11/10
Supported WEB browser	Google Chrome (recommended), Microsoft Edge, Firefox (*Internet browser supporting HTML5)
Service content	<Remote control service> Easy remote control and confirmation of measurement data from G-REMOTE on a browser via an Internet connection <Data Storage Service> Storing data on Graphtec cloud servers via Internet connection *For more information about product, please check the web site.

SOFTWARE FÜR PC

Item	Description
Supported OS(*6)	Windows11/10
GL28-APS	Allows for main unit settings and data recording, storage, and playback from a PC Supported models: GL860/GL260/GL840/GL240
GL-Connection	Connectable units / channels: Max. 10 units / 1,000ch GL Series Integration Software Allows for main unit settings and data recording, storage, and playback from a PC Supported models: GL7000 Plus/GL2000/GL980/ GL860/GL840/GL260/GL240/GLT400
	Connectable units: 20 / Max. 2000ch

KALIBRIERUNGSBEZOGENE DOKUMENTE (PRODUKTIONS DATEN)

Item	Code	Description
TEST CERTIFICATE	B-TEST	*The data of documents ordered at the time of product purchase are as of manufacture. Additional fee will be required to order documents with the latest data.
TRACEABILITY CHART	B-TRACE	
CALIBRATION CERTIFICATE	B-CAL	

*Please visit calibration services section of our website for details.

- *1 : Input/Output cable for GL (option B-513) is required.
- *2 : Recorded in 2GB per file, SD cards available, Supported SDHC, up to approx. 32GB memory
- *3 : If the ring setting and external sampling function is ON, the backup function is not available.
- *4 : Available temperature range: -25°C~+80°C (Special order/ 10m, 15m, 20m available)
- *5 : Not available in the US area.
- *6 : OS that are no longer supported by the OS manufacturer are not supported by Graphtec
- *7 : 1 shunt resistor per channel is required.



GL860_KE11005_1D

- Due to the possibility of equipment or PC failure, the data files on the instrument will not be guaranteed to be held on the memory. Please make a back up of data whenever possible to avoid data loss.
- Brand names and product names listed in this brochure are the trademarks or registered trademarks of their respective owners.
- Items mentioned are subject to change without notice. For more information about product, please check the web site or contact your local representative.



For using equipment in correctly and safely

- Before using it, please read the user manual and then please use it properly in accordance with the description.
- To avoid malfunction or an electric shock by current leakage or voltage, please ensure a ground connection and use according to the specification.



B-563/B-563SL SPEZIFIKATIONEN

Item		Description		
Number of input channels	Standard 20CH screw terminal	20 channels (Up to 200 channels when using with the expansion terminal base) * Between GL860 and terminal and between terminals can be directly connected or with an expansion terminal connection cable (sold separately)		
	Standard 20CH screwless terminal	20 channels (Up to 200 channels when using with the expansion terminal base) * Between GL860 and terminal and between terminals can be directly connected or with an expansion terminal connection cable (sold separately)		
Input terminal type	Standard 20CH screw terminal	M3 screw-type terminals (Rectangular flat washer)		
	Standard 20CH screwless terminal	Screwless terminal		
Input method		Photo MOS relay scanning system All channels isolated, balanced input		
Scan speed		5 ms/1 ch maximum		
Measurement ranges		Voltage: 20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50, 100 V, 1-5 V F.S.		
		Temperature Thermocouples: K, J, E, T, R, S, B, N, C (W: WRe5-26) Temperature range: 100°C, 500°C, 2000°C (In the case of Fahrenheit: 150°F, 750°F, 3000°F)		
		Humidity: 0 to 100% (voltage 0 to 1 V scaling conversion) fixed		
Measurement accuracy (23°C ±5°C) • When 30 minutes or more have elapsed after power was switched on • Sampling 1 s/10 ch • Filter ON (10) • GND connected		Voltage: 0.1% of F.S.		
		Temperature		
		• Thermocouple		
		Thermocouple	Measurement Temperature Range (°C)	Measurement Accuracy
		R/S	0 ≤ TS ≤ 100 °C 100 < TS ≤ 300 °C R : 300 < TS ≤ 1600 °C S : 300 < TS ≤ 1760 °C	±5.2 °C ±3.0 °C ± (0.05% of rdg +2.0 °C) ± (0.05% of rdg +2.0 °C)
		B	400 ≤ TS ≤ 600 °C 600 < TS ≤ 1820 °C	±3.5 °C ± (0.05% of rdg +2.0 °C)
		K	-200 ≤ TS ≤ -100 °C -100 < TS ≤ 1370 °C	± (0.05% of rdg +2.0 °C) ± (0.05% of rdg +1.0 °C)
		E	-200 ≤ TS ≤ -100 °C -100 < TS ≤ 800 °C	± (0.05% of rdg +2.0 °C) ± (0.05% of rdg +1.0 °C)
		T	-200 ≤ TS ≤ -100 °C -100 < TS ≤ 400 °C	± (0.1% of rdg +1.5 °C) ± (0.1% of rdg +0.5 °C)
		J	-200 ≤ TS ≤ -100 °C -100 < TS ≤ 100 °C 100 < TS ≤ 1100 °C	±2.7 °C ±1.7 °C ± (0.05% of rdg +1.0°C)
		N	-200 ≤ TS < 0 °C 0 ≤ TS ≤ 1300 °C	± (0.1% of rdg +2.0°C) ± (0.1% of rdg +1.0°C)
		C (W)	0 ≤ TS ≤ 2000 °C	± (0.1% of rdg +1.5°C)
		Reference contact compensation accuracy		±0.5 °C
* Thermocouple diameters T, K: 0.32 φ, others: 0.65 φ				



B-563/B-563SL SPEZIFIKATIONEN

Item	Description																																														
	• Temperature range																																														
	<table><tr><th>Type</th><th>Temperature range</th><th>Resolution</th><th>Measurement Range</th></tr><tr><td rowspan="3">R/S</td><td>100°C F.S.</td><td>0.01°C</td><td>0 to 100°C</td></tr><tr><td>500°C F.S.</td><td>0.05°C</td><td>0 to 500°C</td></tr><tr><td>2000°C F.S.</td><td>0.1°C</td><td>R: 0 to 1600°C S: 0 to 1760°C</td></tr><tr><td rowspan="2">B</td><td>500°C F.S.</td><td>0.05°C</td><td>400 to 500°C</td></tr><tr><td>2000°C F.S.</td><td>0.01°C</td><td>500 to 1820°C</td></tr><tr><td rowspan="8">K/E/T/J/N</td><td>100°C F.S.</td><td>0.01°C</td><td>-100 to 100°C</td></tr><tr><td>500°C F.S.</td><td>0.05°C</td><td>K/E/J/N : -200 to 500°C T: -200 to 400°C</td></tr><tr><td rowspan="6">2000°C F.S. °C</td><td rowspan="6">0.1°C</td><td>K: -200 to 1370°C</td></tr><tr><td>E: -200 to 800°C</td></tr><tr><td>T: -200 to 400°C</td></tr><tr><td>J: -200 to 1100°C</td></tr><tr><td>N: -200 to 2000°C</td></tr><tr><td></td></tr><tr><td rowspan="3">C (W)</td><td>100°C F.S.</td><td>0.01°C</td><td>0 to 100°C</td></tr><tr><td>500°C F.S.</td><td>0.05°C</td><td>0 to 500°C</td></tr><tr><td>2000°C F.S.</td><td>0.1°C</td><td>0 to 2000°C</td></tr></table>	Type	Temperature range	Resolution	Measurement Range	R/S	100°C F.S.	0.01°C	0 to 100°C	500°C F.S.	0.05°C	0 to 500°C	2000°C F.S.	0.1°C	R: 0 to 1600°C S: 0 to 1760°C	B	500°C F.S.	0.05°C	400 to 500°C	2000°C F.S.	0.01°C	500 to 1820°C	K/E/T/J/N	100°C F.S.	0.01°C	-100 to 100°C	500°C F.S.	0.05°C	K/E/J/N : -200 to 500°C T: -200 to 400°C	2000°C F.S. °C	0.1°C	K: -200 to 1370°C	E: -200 to 800°C	T: -200 to 400°C	J: -200 to 1100°C	N: -200 to 2000°C		C (W)	100°C F.S.	0.01°C	0 to 100°C	500°C F.S.	0.05°C	0 to 500°C	2000°C F.S.	0.1°C	0 to 2000°C
	Type	Temperature range	Resolution	Measurement Range																																											
	R/S	100°C F.S.	0.01°C	0 to 100°C																																											
		500°C F.S.	0.05°C	0 to 500°C																																											
		2000°C F.S.	0.1°C	R: 0 to 1600°C S: 0 to 1760°C																																											
	B	500°C F.S.	0.05°C	400 to 500°C																																											
		2000°C F.S.	0.01°C	500 to 1820°C																																											
	K/E/T/J/N	100°C F.S.	0.01°C	-100 to 100°C																																											
		500°C F.S.	0.05°C	K/E/J/N : -200 to 500°C T: -200 to 400°C																																											
		2000°C F.S. °C	0.1°C	K: -200 to 1370°C																																											
				E: -200 to 800°C																																											
				T: -200 to 400°C																																											
				J: -200 to 1100°C																																											
				N: -200 to 2000°C																																											
	C (W)	100°C F.S.	0.01°C	0 to 100°C																																											
500°C F.S.		0.05°C	0 to 500°C																																												
2000°C F.S.		0.1°C	0 to 2000°C																																												
* Measurement accuracy does not change due to the temperature range.																																															
Reference contact compensation accuracy	Internal/External switching																																														
A/D converter	Method: ΔΣ method Resolution: 16-bit (Effective resolution: About 1/40000 of the +/- range)																																														
Temperature coefficient	Gain: 0.01% of F.S./°C Zero: 0.02% of F.S./°C * Zero occurs at the sampling of 5, 10, 20, and 50 ms.																																														
Input resistance	1MΩ ±5%																																														
Allowable signal source resistance	Within 300Ω																																														
Maximum permissible input voltage	Between +/- terminals: 20mV to 2V range (60Vp-p) 5V to 100V range (110Vp-p) Between input terminal/input terminal: 60 Vp-p Between input terminal/GND: 60 Vp-p																																														
Withstand voltage	Between input terminal/input terminal: 350 Vp-p 1 minute Between input terminal/GND: 350 Vp-p 1 minute																																														
Insulation resistance	Between input terminal/GND: 50MΩ or more (at 500 VDC)																																														
Common mode rejection ratio	90 dB or more (50/60 Hz; signal source 300Ω or less)																																														
Noise	48 dB or more (with +/- terminals shorted)																																														
Filter	Off, 2, 5, 10, 20, 40 Filter operation is on a moving average basis. The average value of the number of set samples is used. If the sample interval exceeds 30 seconds, the average value of data obtained in a sub-sample (30 seconds) is used.																																														



B-563SL-30 SPEZIFIKATIONEN

Item	Description																																																		
Number of input channels	30 channels (Up to 200 channels when using with the expansion terminal base) * Between GL860 and terminal and between terminals can be directly connected or with an expansion terminal connection cable (sold separately)																																																		
Input terminal type	Screwless terminal																																																		
Input method	Photo MOS relay scanning system All channels isolated, balanced input																																																		
Scan speed	5 ms/1 ch maximum																																																		
Measurement ranges	Voltage: 20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50, 100 V, 1-5 V F.S.																																																		
	Temperature Thermocouples: K, J, E, T, R, S, B, N, C (W: WRe5-26) Temperature range: 100°C, 500°C, 2000°C (In the case of Fahrenheit: 150°F, 750°F, 3000°F)																																																		
	Humidity: 0 to 100% (voltage 0 to 1 V scaling conversion) fixed																																																		
Measurement accuracy (23°C ±5°C) • When 30 minutes or more have elapsed after power was switched on • Sampling 2 s/30 ch • Filter ON (10) • GND connected	Voltage: 0.1% of F.S.																																																		
	Temperature																																																		
	• Thermocouple																																																		
	<table><thead><tr><th>Thermocouple</th><th>Measurement Temperature Range (°C)</th><th>Measurement Accuracy</th></tr></thead><tbody><tr><td rowspan="4">R/S</td><td>0 ≤ TS ≤ 100°C</td><td>±5.2°C</td></tr><tr><td>100 < TS ≤ 300°C</td><td>±3.0°C</td></tr><tr><td>R : 300 < TS ≤ 1600°C</td><td>± (0.05% of rdg +2.0°C)</td></tr><tr><td>S : 300 < TS ≤ 1760°C</td><td>± (0.05% of rdg +2.0°C)</td></tr><tr><td rowspan="2">B</td><td>400 ≤ TS ≤ 600°C</td><td>±3.5°C</td></tr><tr><td>600 < TS ≤ 1820°C</td><td>± (0.05% of rdg +2.0°C)</td></tr><tr><td rowspan="2">K</td><td>-200 ≤ TS ≤ -100°C</td><td>± (0.05% of rdg +2.0°C)</td></tr><tr><td>-100 < TS ≤ 1370°C</td><td>± (0.05% of rdg +1.0°C)</td></tr><tr><td rowspan="2">E</td><td>-200 ≤ TS ≤ -100°C</td><td>± (0.05% of rdg +2.0°C)</td></tr><tr><td>-100 < TS ≤ 800°C</td><td>± (0.05% of rdg +1.0°C)</td></tr><tr><td rowspan="2">T</td><td>-200 ≤ TS ≤ -100°C</td><td>± (0.1% of rdg +1.5°C)</td></tr><tr><td>-100 < TS ≤ 400°C</td><td>± (0.1% of rdg +0.5°C)</td></tr><tr><td rowspan="3">J</td><td>-200 ≤ TS ≤ -100°C</td><td>±2.7°C</td></tr><tr><td>-100 < TS ≤ 100°C</td><td>±1.7°C</td></tr><tr><td>100 < TS ≤ 1100°C</td><td>± (0.05% of rdg +1.0°C)</td></tr><tr><td rowspan="2">N</td><td>-200 ≤ TS < 0°C</td><td>± (0.1% of rdg +2.0°C)</td></tr><tr><td>0 ≤ TS ≤ 1300°C</td><td>± (0.1% of rdg +1.0°C)</td></tr><tr><td>C (W)</td><td>0 ≤ TS ≤ 2000°C</td><td>± (0.1% of rdg +1.5°C)</td></tr><tr><td colspan="2">Reference contact compensation accuracy</td><td>±0.5°C</td></tr></tbody></table>	Thermocouple	Measurement Temperature Range (°C)	Measurement Accuracy	R/S	0 ≤ TS ≤ 100°C	±5.2°C	100 < TS ≤ 300°C	±3.0°C	R : 300 < TS ≤ 1600°C	± (0.05% of rdg +2.0°C)	S : 300 < TS ≤ 1760°C	± (0.05% of rdg +2.0°C)	B	400 ≤ TS ≤ 600°C	±3.5°C	600 < TS ≤ 1820°C	± (0.05% of rdg +2.0°C)	K	-200 ≤ TS ≤ -100°C	± (0.05% of rdg +2.0°C)	-100 < TS ≤ 1370°C	± (0.05% of rdg +1.0°C)	E	-200 ≤ TS ≤ -100°C	± (0.05% of rdg +2.0°C)	-100 < TS ≤ 800°C	± (0.05% of rdg +1.0°C)	T	-200 ≤ TS ≤ -100°C	± (0.1% of rdg +1.5°C)	-100 < TS ≤ 400°C	± (0.1% of rdg +0.5°C)	J	-200 ≤ TS ≤ -100°C	±2.7°C	-100 < TS ≤ 100°C	±1.7°C	100 < TS ≤ 1100°C	± (0.05% of rdg +1.0°C)	N	-200 ≤ TS < 0°C	± (0.1% of rdg +2.0°C)	0 ≤ TS ≤ 1300°C	± (0.1% of rdg +1.0°C)	C (W)	0 ≤ TS ≤ 2000°C	± (0.1% of rdg +1.5°C)	Reference contact compensation accuracy		±0.5°C
	Thermocouple	Measurement Temperature Range (°C)	Measurement Accuracy																																																
	R/S	0 ≤ TS ≤ 100°C	±5.2°C																																																
		100 < TS ≤ 300°C	±3.0°C																																																
		R : 300 < TS ≤ 1600°C	± (0.05% of rdg +2.0°C)																																																
		S : 300 < TS ≤ 1760°C	± (0.05% of rdg +2.0°C)																																																
	B	400 ≤ TS ≤ 600°C	±3.5°C																																																
		600 < TS ≤ 1820°C	± (0.05% of rdg +2.0°C)																																																
	K	-200 ≤ TS ≤ -100°C	± (0.05% of rdg +2.0°C)																																																
		-100 < TS ≤ 1370°C	± (0.05% of rdg +1.0°C)																																																
	E	-200 ≤ TS ≤ -100°C	± (0.05% of rdg +2.0°C)																																																
-100 < TS ≤ 800°C		± (0.05% of rdg +1.0°C)																																																	
T	-200 ≤ TS ≤ -100°C	± (0.1% of rdg +1.5°C)																																																	
	-100 < TS ≤ 400°C	± (0.1% of rdg +0.5°C)																																																	
J	-200 ≤ TS ≤ -100°C	±2.7°C																																																	
	-100 < TS ≤ 100°C	±1.7°C																																																	
	100 < TS ≤ 1100°C	± (0.05% of rdg +1.0°C)																																																	
N	-200 ≤ TS < 0°C	± (0.1% of rdg +2.0°C)																																																	
	0 ≤ TS ≤ 1300°C	± (0.1% of rdg +1.0°C)																																																	
C (W)	0 ≤ TS ≤ 2000°C	± (0.1% of rdg +1.5°C)																																																	
Reference contact compensation accuracy		±0.5°C																																																	
* Thermocouple diameters T, K: 0.32 φ, others: 0.65 φ																																																			



B-563SL-30 SPEZIFIKATIONEN

Item	Description																																											
	• Temperature range																																											
	Type	Temperature range	Resolution	Measurement Range	R/S	100°C F.S.	0.01°C	0 to 100°C	500°C F.S.	0.05°C	0 to 500°C	2000°C F.S.	0.1°C	R : 0 to 1600°C S : 0 to 1760°C	B	500°C F.S.	0.05°C	400 to 500°C	2000°C F.S.	0.01°C	500 to 1820°C	K/E/T/J/N	100°C F.S.	0.01°C	-100 to 100°C	500°C F.S.	0.05°C	K/E/J/N: -200 to 500°C T: -200 to 400°C	2000°C F.S.	0.1°C	K: -200 to 1370°C	E: -200 to 800°C	T: -200 to 400°C	J: -200 to 1100°C N: -200 to 2000°C	C (W)	100°C F.S.	0.01°C	0 to 100°C	500°C F.S.	0.05°C	0 to 500°C	2000°C F.S.	0.1°C	0 to 2000°C
	Type	Temperature range	Resolution	Measurement Range																																								
	R/S	100°C F.S.	0.01°C	0 to 100°C																																								
		500°C F.S.	0.05°C	0 to 500°C																																								
		2000°C F.S.	0.1°C	R : 0 to 1600°C S : 0 to 1760°C																																								
	B	500°C F.S.	0.05°C	400 to 500°C																																								
		2000°C F.S.	0.01°C	500 to 1820°C																																								
	K/E/T/J/N	100°C F.S.	0.01°C	-100 to 100°C																																								
		500°C F.S.	0.05°C	K/E/J/N: -200 to 500°C T: -200 to 400°C																																								
		2000°C F.S.	0.1°C	K: -200 to 1370°C																																								
				E: -200 to 800°C																																								
				T: -200 to 400°C																																								
				J: -200 to 1100°C N: -200 to 2000°C																																								
		C (W)	100°C F.S.	0.01°C	0 to 100°C																																							
	500°C F.S.		0.05°C	0 to 500°C																																								
	2000°C F.S.		0.1°C	0 to 2000°C																																								
* Measurement accuracy does not change due to the temperature range.																																												
Reference contact compensation accuracy	Internal/External switching																																											
A/D converter	Method: ΔΣ method Resolution: 16-bit (Effective resolution: About 1/40000 of the +/- range)																																											
Temperature coefficient	Gain: 0.01% of F.S./°C Zero: 0.02% of F.S./°C * Zero occurs at the sampling of 5, 10, 20, and 50 ms.																																											
Input resistance	1MΩ ±5%																																											
Allowable signal source resistance	Within 300Ω																																											
Maximum permissible input voltage	Between +/- terminals: 20mV to 2V range (60Vp-p) 5V to 100V range (110Vp-p) Between input terminal/input terminal: 60 Vp-p Between input terminal/GND: 60 Vp-p																																											
Withstand voltage	Between input terminal/input terminal: 350 Vp-p 1 minute Between input terminal/GND: 350 Vp-p 1 minute																																											
Insulation resistance	Between input terminal/GND: 50MΩ or more (at 500 VDC)																																											
Common mode rejection ratio	90 dB or more (50/60 Hz; signal source 300Ω or less)																																											
Noise	48 dB or more (with +/- terminals shorted)																																											
Filter	Off, 2, 5, 10, 20, 40 Filter operation is on a moving average basis. The average value of the number of set samples is used. If the sample interval exceeds 30 seconds, the average value of data obtained in a sub-sample (30 seconds) is used.																																											



B-565 SPEZIFIKATIONEN

Item	Description																																																						
Number of input channels	20 channels (Up to 200 channels when using with the expansion terminal base) * Between GL860 and terminal and between terminals can be directly connected or with an expansion terminal connection cable (sold separately)																																																						
Input terminal type	M3 screw-type terminals (Rectangular flat washer)																																																						
Input method	Photo MOS relay scanning system All channels isolated, balanced input * Terminal b to be used to connect the Resistance bulb is shorted within all channels.																																																						
Scan speed	5 ms/1 ch maximum																																																						
Measurement ranges	Voltage: 20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50, 100 V, 1-5 V F.S. Temperature Thermocouples: K, J, E, T, R, S, B, N, C (W: WRe5-26) Resistance bulb: Pt100, JPt100, Pt1000 (IEC751) Temperature range: 100°C, 500°C, 2000°C (In the case of Fahrenheit: 150°F, 750°F, 3000°F) Humidity: 0 to 100% (voltage 0 to 1 V scaling conversion) fixed																																																						
Measurement accuracy (23°C ±5°C) • When 30 minutes or more have elapsed after power was switched on • Sampling 1 s/10 ch • Filter ON (10) • GND connected	Voltage: ± (0.05% of F.S. + 10µV) Temperature • Thermocouple <table><tr><th>Thermocouple</th><th>Measurement Temperature Range (°C)</th><th>Measurement Accuracy</th></tr><tr><td>R/S</td><td>0 ≤ TS ≤ 100°C 100 < TS ≤ 300°C R : 300 < TS ≤ 1600°C S : 300 < TS ≤ 1760°C</td><td>±4.5°C ±3.0°C ±2.2°C ±2.2°C</td></tr><tr><td>B</td><td>400 ≤ TS ≤ 600°C 600 < TS ≤ 1820°C</td><td>±3.5°C ±2.5°C</td></tr><tr><td>K</td><td>-200 ≤ TS ≤ -100°C -100 < TS ≤ 1370°C</td><td>±1.5°C ±0.8°C</td></tr><tr><td>E</td><td>-200 ≤ TS ≤ -100°C -100 < TS ≤ 800°C</td><td>±1.0°C ±0.8°C</td></tr><tr><td>T</td><td>-200 ≤ TS ≤ -100°C -100 < TS ≤ 400°C</td><td>±1.5°C ±0.6°C</td></tr><tr><td>J</td><td>-200 ≤ TS ≤ -100°C -100 < TS ≤ 100°C 100 < TS ≤ 1100°C</td><td>±1.0°C ±0.8°C ±0.6°C</td></tr><tr><td>N</td><td>-200 ≤ TS < 0°C 0 ≤ TS ≤ 1300°C</td><td>±2.2°C ±1.0°C</td></tr><tr><td>C (W)</td><td>0 ≤ TS ≤ 2000°C</td><td>±1.8°C</td></tr><tr><td colspan="2">Reference contact compensation accuracy</td><td>±0.3°C</td></tr></table> * Thermocouple diameters T, K: 0.32 φ, others: 0.65 φ • Resistance bulb <table><tr><th>Type</th><th>Measurement Temperature Range (°C)</th><th>Applied current</th><th>Measurement</th></tr><tr><td rowspan="3">Pt100</td><td>-200 ≤ TS ≤ 100°C</td><td rowspan="3">1mA</td><td>±0.6°C</td></tr><tr><td>100 < TS ≤ 500°C</td><td>±0.8°C</td></tr><tr><td>500 < TS ≤ 850°C</td><td>±1.0°C</td></tr><tr><td rowspan="2">JPt100</td><td>-200 ≤ TS ≤ 100°C</td><td rowspan="2">1mA</td><td>±0.6°C</td></tr><tr><td>100 < TS ≤ 500°C</td><td>±0.8°C</td></tr><tr><td rowspan="2">Pt1000</td><td>-200 ≤ TS ≤ 100°C</td><td rowspan="2">0.3mA</td><td>±0.6°C</td></tr><tr><td>100 < TS ≤ 500°C</td><td>±0.8°C</td></tr></table> * 3-wire system.	Thermocouple	Measurement Temperature Range (°C)	Measurement Accuracy	R/S	0 ≤ TS ≤ 100°C 100 < TS ≤ 300°C R : 300 < TS ≤ 1600°C S : 300 < TS ≤ 1760°C	±4.5°C ±3.0°C ±2.2°C ±2.2°C	B	400 ≤ TS ≤ 600°C 600 < TS ≤ 1820°C	±3.5°C ±2.5°C	K	-200 ≤ TS ≤ -100°C -100 < TS ≤ 1370°C	±1.5°C ±0.8°C	E	-200 ≤ TS ≤ -100°C -100 < TS ≤ 800°C	±1.0°C ±0.8°C	T	-200 ≤ TS ≤ -100°C -100 < TS ≤ 400°C	±1.5°C ±0.6°C	J	-200 ≤ TS ≤ -100°C -100 < TS ≤ 100°C 100 < TS ≤ 1100°C	±1.0°C ±0.8°C ±0.6°C	N	-200 ≤ TS < 0°C 0 ≤ TS ≤ 1300°C	±2.2°C ±1.0°C	C (W)	0 ≤ TS ≤ 2000°C	±1.8°C	Reference contact compensation accuracy		±0.3°C	Type	Measurement Temperature Range (°C)	Applied current	Measurement	Pt100	-200 ≤ TS ≤ 100°C	1mA	±0.6°C	100 < TS ≤ 500°C	±0.8°C	500 < TS ≤ 850°C	±1.0°C	JPt100	-200 ≤ TS ≤ 100°C	1mA	±0.6°C	100 < TS ≤ 500°C	±0.8°C	Pt1000	-200 ≤ TS ≤ 100°C	0.3mA	±0.6°C	100 < TS ≤ 500°C	±0.8°C
Thermocouple	Measurement Temperature Range (°C)	Measurement Accuracy																																																					
R/S	0 ≤ TS ≤ 100°C 100 < TS ≤ 300°C R : 300 < TS ≤ 1600°C S : 300 < TS ≤ 1760°C	±4.5°C ±3.0°C ±2.2°C ±2.2°C																																																					
B	400 ≤ TS ≤ 600°C 600 < TS ≤ 1820°C	±3.5°C ±2.5°C																																																					
K	-200 ≤ TS ≤ -100°C -100 < TS ≤ 1370°C	±1.5°C ±0.8°C																																																					
E	-200 ≤ TS ≤ -100°C -100 < TS ≤ 800°C	±1.0°C ±0.8°C																																																					
T	-200 ≤ TS ≤ -100°C -100 < TS ≤ 400°C	±1.5°C ±0.6°C																																																					
J	-200 ≤ TS ≤ -100°C -100 < TS ≤ 100°C 100 < TS ≤ 1100°C	±1.0°C ±0.8°C ±0.6°C																																																					
N	-200 ≤ TS < 0°C 0 ≤ TS ≤ 1300°C	±2.2°C ±1.0°C																																																					
C (W)	0 ≤ TS ≤ 2000°C	±1.8°C																																																					
Reference contact compensation accuracy		±0.3°C																																																					
Type	Measurement Temperature Range (°C)	Applied current	Measurement																																																				
Pt100	-200 ≤ TS ≤ 100°C	1mA	±0.6°C																																																				
	100 < TS ≤ 500°C		±0.8°C																																																				
	500 < TS ≤ 850°C		±1.0°C																																																				
JPt100	-200 ≤ TS ≤ 100°C	1mA	±0.6°C																																																				
	100 < TS ≤ 500°C		±0.8°C																																																				
Pt1000	-200 ≤ TS ≤ 100°C	0.3mA	±0.6°C																																																				
	100 < TS ≤ 500°C		±0.8°C																																																				



B-565 SPEZIFIKATIONEN

Item	Description																																																									
	• Temperature range																																																									
	Type	Temperature range	Resolution	Measurement Range	R/S	100°C F.S.	0.01°C	0 to 100°C	500°C F.S.	0.05°C	0 to 500°C	2000°C F.S.	0.1°C	R : 0 to 1600°C	S : 0 to 1760°C	B	500°C F.S.	0.05°C	400 to 500°C	2000°C F.S.	0.01°C	500 to 1820°C	K/E/T/J/N	100°C F.S.	0.01°C	-100 to 100°C	500°C F.S.	0.05°C	K/E/J/N: -200 to 500°C	T: -200 to 400°C	2000°C F.S.	0.1°C	K: -200 to 1370°C	E: -200 to 800°C	T: -200 to 400°C	J: -200 to 1100°C	N: -200 to 2000°C	C (W)	100°C F.S.	0.01°C	0 to 100°C	500°C F.S.	0.05°C	0 to 500°C	2000°C F.S.	0.1°C	0 to 2000°C	Pt	100°C F.S.	0.01°C	-100 to 100°C	500°C F.S.	0.05°C	-200 to 500°C	2000°C F.S.	0.1°C	Pt100: -200 to 850°C	JPt100/Pt1000: -200 to 500°C
	Type	Temperature range	Resolution	Measurement Range																																																						
	R/S	100°C F.S.	0.01°C	0 to 100°C																																																						
		500°C F.S.	0.05°C	0 to 500°C																																																						
		2000°C F.S.	0.1°C	R : 0 to 1600°C																																																						
				S : 0 to 1760°C																																																						
	B	500°C F.S.	0.05°C	400 to 500°C																																																						
		2000°C F.S.	0.01°C	500 to 1820°C																																																						
	K/E/T/J/N	100°C F.S.	0.01°C	-100 to 100°C																																																						
		500°C F.S.	0.05°C	K/E/J/N: -200 to 500°C																																																						
				T: -200 to 400°C																																																						
		2000°C F.S.	0.1°C	K: -200 to 1370°C																																																						
				E: -200 to 800°C																																																						
				T: -200 to 400°C																																																						
				J: -200 to 1100°C																																																						
				N: -200 to 2000°C																																																						
	C (W)	100°C F.S.	0.01°C	0 to 100°C																																																						
		500°C F.S.	0.05°C	0 to 500°C																																																						
		2000°C F.S.	0.1°C	0 to 2000°C																																																						
Pt	100°C F.S.	0.01°C	-100 to 100°C																																																							
	500°C F.S.	0.05°C	-200 to 500°C																																																							
	2000°C F.S.	0.1°C	Pt100: -200 to 850°C																																																							
			JPt100/Pt1000: -200 to 500°C																																																							
* Measurement accuracy does not change due to the temperature range.																																																										
Reference contact compensation accuracy	Internal/External switching																																																									
A/D converter	Method: ΔΣ method Resolution: 16-bit (Effective resolution: About 1/40000 of the +/- range)																																																									
Temperature coefficient	Gain: 0.01% of F.S./°C Zero: 0.02% of F.S./°C * Zero occurs at the sampling of 5, 10, 20, and 50 ms.																																																									
Input resistance	1MΩ ±5%																																																									
Allowable signal source resistance	Within 100Ω																																																									
Maximum permissible input voltage	Between +/- terminals: 20mV to 2V range (60Vp-p) 5V to 100V range (110Vp-p) Between input terminal/input terminal: 600 Vp-p Between input terminal/GND: 300 Vp-p																																																									
Withstand voltage	Between input terminal/input terminal: 600 Vp-p Between input terminal/GND: 2300 Vp-p 1 minute																																																									
Insulation resistance	Between input terminal/GND: 50MΩ or more (at 500 VDC)																																																									
Common mode rejection ratio	90 dB or more (50/60 Hz; signal source 300Ω or less)																																																									
Noise	48 dB or more (with +/- terminals shorted)																																																									
Filter	Off, 2, 5, 10, 20, 40 Filter operation is on a moving average basis. The average value of the number of set samples is used. If the sample interval exceeds 30 seconds, the average value of data obtained in a sub-sample (30 seconds) is used.																																																									