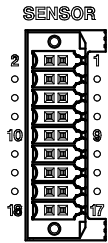


【Connector pin assignment (1:1)】

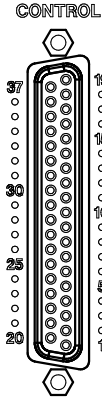
*SENSOR connector terminals



Terminal number	Signal	Explanation
1	TEDS	TEDS memory signal
2	GND	TEDS memory signal ground
3	+EXC (A)	Load cell applied voltage+
4	+SENSE (F)	Load cell remote sensing input+
5	-SIG (B)	Load cell signal output-
6	-EXC (C)	Load cell applied voltage-
7	-SENSE (G)	Load cell remote sensing input-
8	+SIG (D)	Load cell signal output+
9	SHIELD (E)	Shield (FG)
10	+12V OUT	Voltage output displacement sensor applied voltage+
11	STROKE IN	Voltage output displacement sensor signal output+
12	GND	Voltage output displacement sensor GND
13	SHIELD	Shield (FG)
14	V-OUT	D/A voltage output (*1)
15	I-OUT	D/A current output (*1)
16	COM	D/A output common terminal
17	+5V OUT	Pulse displacement sensor applied voltage+
18	GND	Pulse displacement sensor GND

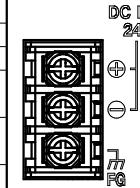
Suitable wiring is 0.14-1.5 mm² (26-16 AWG).
 (*1) Voltage output or current output can be used.
 They cannot output both at the same time.

*CONTROL connector terminals



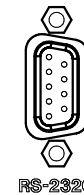
Terminal number	Signal	Explanation
1	COM signal	Common terminal for control signals
2	COM signal	Common terminal for control signals
3	Unit error	This becomes ON if the load cell input exceeds the 3.2mV/V range.
4	Load cell error	This becomes ON if the load cell input exceeds the maximum display value.
5	Measurement complete	This becomes ON when a measurement is completed and the next measurement is possible.
6	Trigger output 2	Trigger condition 2
7	Trigger output 1	Trigger condition 1
8	Band judgment output (load HI)	It will be set to ON if a BAND WAVE Judging maximum is exceeded.
9	Band judgment output (load OK)	It is set to ON within a BAND WAVE Judging.
10	Band judgment output (load LO)	It will be set to ON if a BAND WAVE Judging minimum is exceeded.
11	Judgment output (displacement HI)	It will be set to ON if a displacement judgment maximum is exceeded.
12	Judgment output (displacement OK)	It is set to ON within a displacement judgment.
13	Judgment output (displacement LO)	It will be set to ON if a displacement judgment minimum is exceeded.
14	Judgment output (load HI)	It will be set to ON if a load judgment exceeds HI. (Only continuous judgment mode)
15	Judgment output (load HI)	It will be set to ON if a load judgment exceeds HI.
16	Judgment output (load OK)	It is set to ON within a load judgment.
17	Judgment output (load LO)	It will be set to ON if a load judgment exceeds LO.
18	Judgment output (load LL)	It will be set to ON if a load judgment exceeds LO. (Only continuous judgment mode)
19	COM signal	Common terminal for control signals
20	COM signal	Common terminal for control signals
21	Differential pulse displacement sensor B phase+	Differential pulse displacement sensor B phase+ input
22	Differential pulse displacement sensor B phase-	Differential pulse displacement sensor B phase- input
23	Differential pulse displacement sensor A phase+	Differential pulse displacement sensor A phase+ input
24	Differential pulse displacement sensor A phase-	Differential pulse displacement sensor A phase- input
25	Force LCD lighting	Force LCD lighting
26	Prevent touchscreen operation	Touchscreen locked
27	Force reset	Force reset software
28	Switch work 8	Switch work number setting (Bit3)
29	Switch work 4	Switch work number setting (Bit2)
30	Switch work 2	Switch work number setting (Bit1)
31	Switch work 1	Switch work number setting (Bit0)
32	Switch zone	Zone judgment
33	Clear results	Reset measurement results
34	Enable/disable judgment output	Setting this to ON disables all judgment output.
35	Start/stop measurement	Start of measurement and an end are controlled.
36	Zero balance displacement	Setting this to ON zero-balances the displacement sensor.
37	Digital Zero	Setting this to ON sets the digital zero

*DC power supply input terminals
 *Frame grounding terminal



When connecting to the terminal bank, use a solderless terminal (M3, width of 6mm or less).

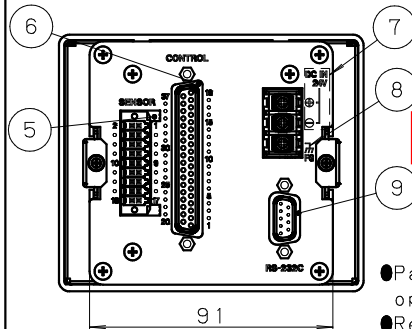
*RS-232C connector



Terminal number	Signal	Explanation
1	---	Circuit un-wiring
2	TXD	Send data
3	RXD	Received data
4	---	Circuit un-wiring
5	GND	GND
6	---	Circuit un-wiring
7	---	Circuit un-wiring
8	---	Circuit un-wiring
9	---	Circuit un-wiring

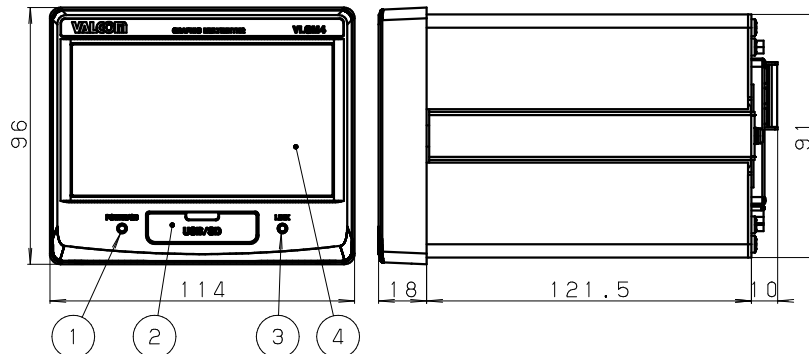
The connector on the unit is a socket (female).
 When using this connector to connect this unit with a computer or sequencer, use an RS-232C (9-pin) cable with straight wires.

【Outline drawing (1:2)】



Reference drawing

- Panel installation opening dimensions: 92 $\frac{1}{2}$ (W) x 92 $\frac{1}{2}$ (H)
- Recommended panel thickness: 1.6~3.2mm



9	RS-232C connector
8	Frame grounding terminal
7	DC power supply input terminals
6	CONTROL connector
5	SENSOR connector
4	Display
3	LINK indicator
2	Recording media slot cover
1	POWER/SD indicator
No.	Name
	Parts

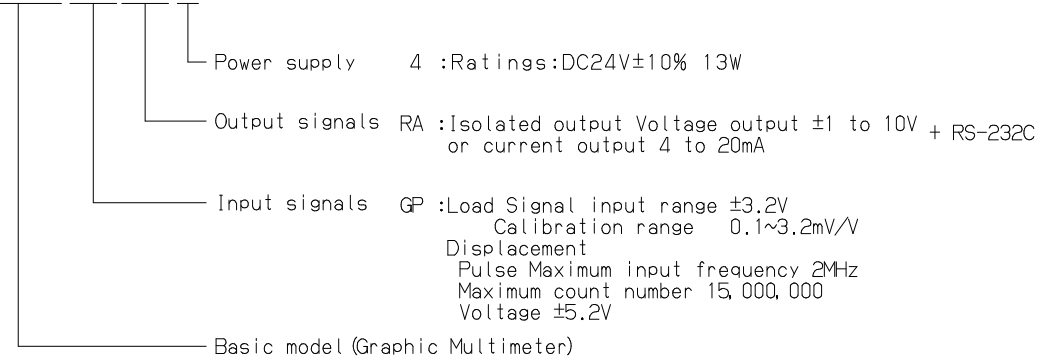
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REV.	REV. DATE	REVISION	ENG	CHK	APP	THIRD ANGLE PROJECTION	UNIT		
						尺 度 1:2	mm	Graphic Multimeter VLGM4 series	
						SCALE (1:1)	シートサイズ A3	型式 MODEL	
						作成日 DATE	2022.01.24	VLGM4-GP-RA-4 (Outline drawing)	
						製図 設計 検図 承認		図面番号 DWG NO.	
								GM-A-5002-01-00	
								株式会社バルコム	
								VALCOM VALCOM CO., LTD	

* Specifications

Load	Bridge voltage	DC2.5V, 5V, 10V±10% (30mA current maximum, can be used with remote sensing)	
	Signal input range	±3.2mV/V	
	Equivalent input/ TEDS	Calibration range	0.1mV/V to 3.2mV/V
		Calibration precision	Within 0.1%F.S. (when using 1m standard Ø8, 4-core shielded cable with 350Ω impedance, 10VBV and 3.2mV/V setting)
	Precision	Linearity	Within 0.01%F.S. +1Digit (when input is 3.2mV/V)
		Zero drift	Within 0.5μV/°C (input conversion value)
		Gain drift	Within ±0.005%F.S./°C
	A/D conversion	Please select 24-bit, 5000times/second, 25000times/second	
	Low-pass filter	Select from 3, 10, 30, 100, 300, 1000Hz (-6dB/oct) or off	
	D/A output	Output with same frequency as A/D conversion, isolated output, ±1-10V output (set in 1V steps) and about 1/59000 resolution (when set to ±10V), or 4-20mA current output and about 1/43000 resolution	
TEDS function	IEEE1451.4 class 2 mix mode interface		
Displacement	Pulse	Pulse type	A/B phase or A phase, differential square wave (RS-422 conformance)
		Maximum input frequency	2MHz
		Maximum count number	15,000,000
		Power output	±5V±10% 500mA
	Voltage	Input	±5.2V
Low-pass filter		10, 30, 100, 300Hz	
Common	Display	4.3" color with touch panel LCD (480x272)	
	Indicator value	Display range	-32000 to 32000
		Decimal point	Display position selectable
		Times displayed	4 times/second
	Unit shown	Load	dN, N, kN, g, kg, mNm, Nm, kNm, Pa, kPa, MPa, m/s ² , mm, -
		Displacement	μm, mm, cm, m, rad, -
	External input and output signals	Input	Differential pulse position sensor (A phase, B phase), force backlight lighting, prevent touchscreen operation, force reset, work switching (4-bit), switch zone, clear results (reset measurement results), enable/disable judgment output, start/stop measurement, zero balance displacement, digital zero Isolated from main unit circuits using a photocoupler
		Output	Load judgment output (HH, HI, OK, LO, LL), displacement judgment output (HI, OK, LO), load cell error, measurement complete, trigger output (1, 2) Open collector output (isolated from main unit circuits using a photocoupler)
		RS-232C	RXD, TXD
		Power supply	Ratings: DC24V±10% 13W
	Operating temperature range	0°C to 40°C	
	Storage temperature range	-20°C to 60°C	
	Operating humidity range	85% RH or less (without condensation)	
	Applicable standards	CE marking, FCC (Class A), UL61010-1	
	External dimensions (W×H×D)	Approximately 114mm×96mm×140mm (without protrusions)	
Weight	About 960g		

* MODEL CODES

VLGM4-GP-RA-4



* Supplies list

article	Number
Unit (VLGM4-GP-RA-4)	1
Input and output connector plugs	
● SENSOR connector plug (B2CF 3.50/18/180LR SN OR BX)	1
● CONTROL connector plug (1) connector:HDCB-37P (05)	1
(2) case:HDC-CTH (4-40) (10)	1
Instructions for Use	1

Reference drawing

符号 REV.	改訂日 REV. DATE	改訂内容 REVISION	担当 ENG	検閲 CHK	承認 APP	第三角法 THIRD ANGLE PROJECTION	単位 UNIT	品名 TITLE
							mm	Graphic Multimeter VLGM4 series
						尺 SCALE	シートサイズ SHEET SIZE	型式 MODEL
						作成日 DATE	A3	VLGM4-GP-RA-4 (Specifications)
						2022.01.24		
						製図 DRAWN	設計 DESIGNER	検閲 CHECKED
								承認 APPROVED
						R. K	K. Y	Y. F
								図面番号 DWG NO.
								GM-G-5004-01-00
								改訂符号 REV
								株式会社バルコム VALCOM CO., LTD