General Specification

EML900

GS 80B80M03E 1st

EML900

Electromagnetic Log

General

The EML900 series electromagnetic log conforms to the technical requirements for the performance standard determined by IMO Resolution A824(19) and MSC.96(72), and also meets type approval issued by the Transport Ministry of JG.

Certificate number of type approval

- JG: To be acquired in March, 2020
- MED（Wheel mark）: MEDB00005J2

Features

（1）New operation unit

・The visibility and usability are improved by using 3.5 inch color display including short-cut keys.

・Easy adjustment of indication speed.

・Compact and weight saving unit whose equip position can be selected flexibly.

（2）Improvement of the sea valve and the sensor

・Easy Installation and pull-put of the sensor.

・A dual-axis sensor can measure not only the longitudinal speed but also the transverse speed.

（3）Error indication

・Detail of error and correspond can be confirmed on MENU screen.

・The error log function is included.

（4）Interface with GYRO(Dual-axis sensor)

・Transvers resolution, tidal detection, berthing functions become available by connecting Gyro compass.

（5）Interface with external equipment

・Interface with GPS（For backup）

・Interface with GYRO （For new optional function）

・Analog signal output (Voltage and Current) (option)

・Pulse signal output（Photo coupler/Photo relay）

・Serial signal output（IEC61162-1）

（6）Built-in self-diagnostic function.

（7）Reduction in the number of parts by employment of highly integrated circuits including microprocessor, and has no moving parts, thereby achieving high reliability.

General specification

☐ Measurement subject : Ship's water speed distance

☐ Measurement principle : Faraday's law of electromagnetic induction



・Sensor（right）

・MHR130 Speed indicator：single-axis (center)

・MLH533 Master indicator（left）

・MLC301 Master unit (left)

Performance specification

☐ Power

・Main power : 100 ～ 220 V AC, 50/60Hz

・Power consumption (AC) 160VA(Maximum)

☐ Measurement range

・Speed : -4kn ～ 20kn
-5kn ～ 25kn
-7kn ～ 35kn
-8kn ～ 40kn (※1)
-10kn ～ 50kn (※2)
-13kn ～ 65kn (※1)(※2)
Resolution 0.1kn

・Transverse speed : -6.5kn-6.5kn (※3)
Resolution 0.1kn

・Distance : 0NM ～ 999999.99NM
Resolution 0.01NM

※1) For LR525

※2) Independent engineering is required to sensor attached part.

※3) For dual-axis sensor.

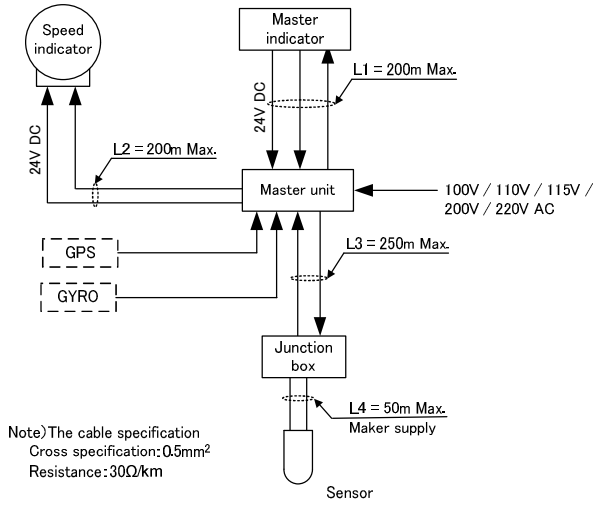
☐Measurement accuracy

・Longitudinal speed : 2% of the speed of the ship, or 0.2knots, whichever is greater.
For analog indication …0.25kn or less if the measuring range is above 50kt.

・Distance： ±0.2nm/h or ±2.0% max, whichever is larger.
・Resultant speed and Transvers speed (Dual-axis).
: 2% of the speed of the ship, or 0.2knots, whichever is greater (※ Accuracy of sensor).
・Direction of ship movement (Dual-axis)
: Less than ±2.5° (※Accuracy of sensor).
※Based on the technical requirements for the performance standard determined by IMO Resolution A824(19) and MSC.96(72).

☐ Response speed
・Variable up to 1min for a 0 to FS-step input (0% to 95% response).

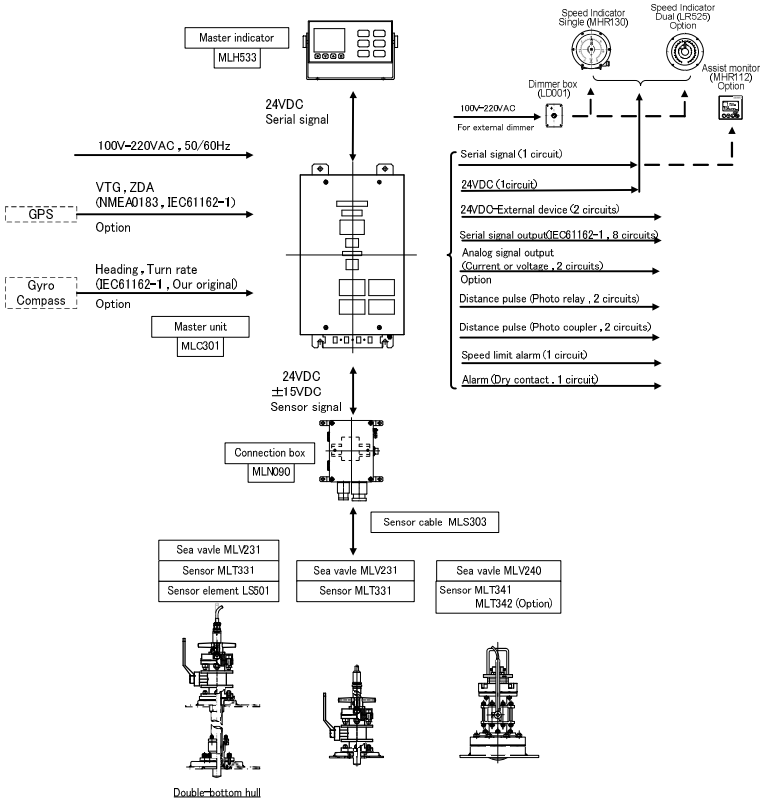
☐ Restriction of the cables between each equipment



Environmental condition

☐ Temperature :-15℃ ～ +55℃
☐ Humidity : 0～93% R.H
☐ Vibration : 2.0～13.2Hz:
Full amplitude 2mm/13.2～100Hz: 7m/s²
☐Protection : Junction box,Sensor top …IP56
Sensor bottom …IPx8
Other than above …IP22
☐Power range : AC power …Voltage ±10%
Frequency ±5%
☐ Insulation resistance:
At least 10MΩ using a 500V megger
AC1500V, 1min (AC power supply – FG).
☐Withstanding voltage:IEC 60945 Ed.4

System configuration and system type



EML900 is composed of Master unit, Master indicator and Sensor unit. And if it is necessary, combined with speed indicator and external equipment.

Basic system model

Basic system model is set according to the sensor type.

※This document describes the equipment which are surrounded by bold flame in below table.

Please refer to another GS about Sea-bottom.

Component Models : EML900－□□□

Sensor unit code

Product name and Model \ System type			EML900- HD1 single	HD1 double	FB1	FB2	Description
Master unit		MLC301	○	○	○	○	
Master indicator		MLH533	○	○	○	○	
Speed indicator		MHR130-SPD	○	○	○	○	Single-axis
		LR525				○	Dual-axis（Option）
Dimmer box		MRD010	○	○	○	○	For MHR130
		LD001A				○	For LR525
Dimmer unit		MRD011	○	○	○	○	For MHR130
Junction box		MLN090	○	○	○	○	
Sensor Unit	Sensor	MLT331	○	○			φ35 sensor
		MLT341			○		φ48 sensor
		MLT342				○	φ48 sensor (Dual-axis)
	Sensor element	LS501		○			Double-bottom
	Sensor cable	MLS303	○	○	○	○	
	Sea valve	MLV231	○	○			
		MLV240			○	○	
	Sea valve flange	LV904		○			Double-bottom
	Protection tube	MLV915		○			Double-bottom
	Mounting plate for Sea valve	LV902A-3□		○			Double-bottom (lower)
		LV902A-6□	○				
		LV902A-7□		○			Double-bottom (upper)
		LV902A-8□			①	①	Zinc plate
		LV902A-9□			①	①	Zinc plate unsupported
		LV910			②	②	
	Zinc plate	LV901-1□		○			
		LV901-2□	○				
		LV901-3□			①	①	For 38mm protrusion
Sensor installation		Standard length of protrusion	50mm		13mm to 38mm		Length from bottom plate

①: For φ230 mounting plate

②: For φ250 mounting plate

Engineering specification

■ Input signal

○ List

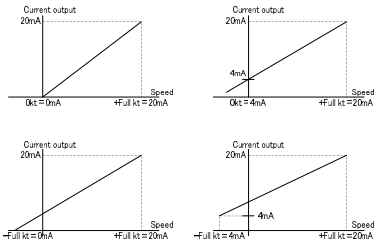
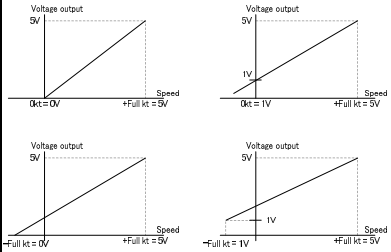
Input	Content	Circuit	Format	Detail
GPS	Back-up (option)	1	IEC61162-1	Refer below table
GYRO	SOG head・transverse resolution, tidal detection, for berthing (option)	1	IEC61162-1	
Sensor Y current (longitudinal)	Sensor detected value	1	Analog	0.242mA/Kn
Sensor X current (transverse)		1		
Master indicator	Communication	1	IEC61162-1	YDK original

＜Input serial signal detail＞

Input	Baud rate [bps]	Talker ID	Sentence	Content	Cycle
GPS	4,800	GP / --	VTG	Composite speed and direction	1
			ZDA	Time and date	1
GYRO	4,800/38400	HE / --	THS	Heading	1
			HDT	Heading	1
			ROT	Turn rate	1
	9,600	P	YDKH	Heading Turn rate	1
		--	HRC	Heading Turn rate	1

■ Output

○ List

Output signal	Circuit	Detail
Analog (speed) (option)	2	Can be selected from below ・Current signal : 0mA to 20mA or 4mA to 20mA  ・Voltage signal : 0V to 5V or 1V to 5V 
Distance pulse	2	Photo coupler output Capacity: ・Voltage between terminals :24VDC max ・Sink Current:5mA max ・Dark current :40μA max Pulse weight: 200P/NM
	2	Photo relay Capacity: ・Voltage between terminals :110V max ・Current between terminals:1.0A max ・Dark current :1μA max Pulse weight: 200P/NM
Serial (speed)	8	Refer below table
Speed limit	1	Contact: ・At state of speed limit “Close”(standard) ・At state of speed limit “Open” (Selectable by Dip SW. 2-2: off=close, on=open) Contact rate:30V DC 1A, 125V AC 0.3A Minimum applicate load:10mV DC 10μA Chattering:3msec max Setting:The higher or lower speed limit can be set by Master indicator.
Alarm	1	Contact: ・At abnormal “Close”(Standard) ・At abnormal “Open” (Selected by Dip SW.2-3: off=close, on=open) Contact rate:30V DC 1A, 125V AC 0.3A Minimum applicate load:10mV DC 10μA Chattering:Max 3ms

Output signal	Circuit	Detail
		Contact output in below situation. －ROM/RAM error －Low battery －Speed input error －Communication error －GPS input error －Power supply for sensor error －Communication error between Master unit and Master indicator
Distributional DC24V	2	1A/0.35A
Power supply for speed indicator	1	24V DC
Serial signal for speed indicator	1	YDK original
Power supply for Master indicator	1	24V DC
Serial signal for Master indicator	1	YDK original

＜Output serial signal detail＞

Output	Baud rate [bps]	Talker ID	Sentence	Standard	Content	Cycle [sec.]
External device	4,800	VM	VBW	IEC61162-1 NMEA2.3 NMEA2.0	STW	1
			VHW	IEC61162-1 NMEA2.3 NMEA2.0	STW	1
			VLW	IEC61162-1 NMEA2.3 NMEA2.0	Distance/ Section distance	1

Component equipment specification

☐Master unit MLC301

Receives and converts speed data signals from the sensor. Then transmits the speed and distance to external devices in various signal forms.

・Wiring position：Coaming of under or back

・Installation ：Wall or flush mount

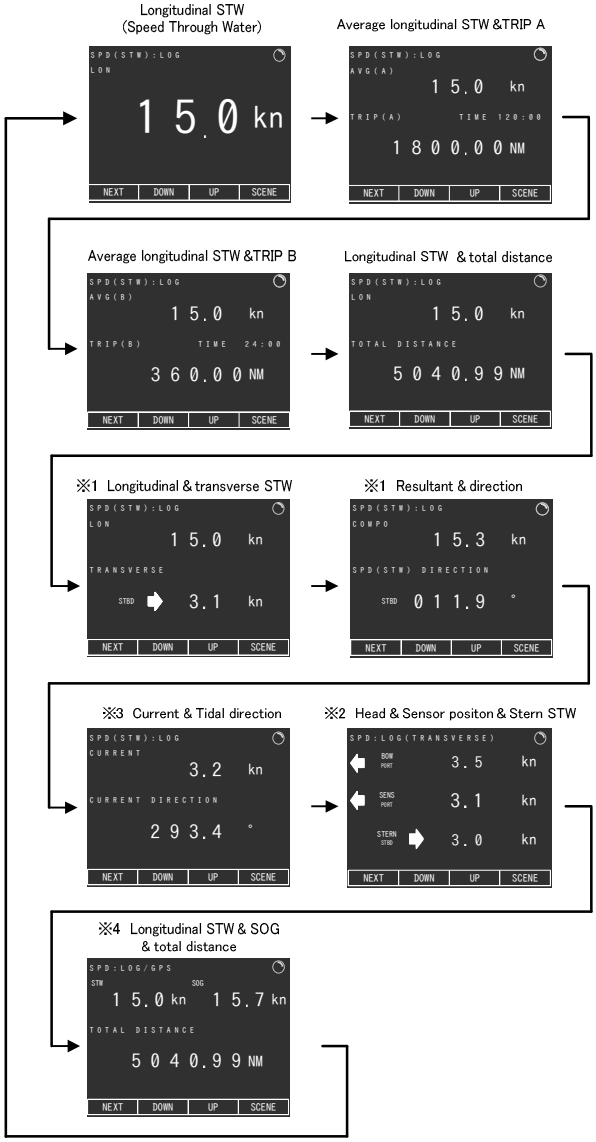
・Construction：water resist

☐Master indicator MLH533

Receives serial signals from the master unit and displays the speed and distance. Both the display and operation panel are on the front of the master indicator. Set data are sent to the master unit in the form of serial signals, and placed in the memory.

・Screens during LOG mode

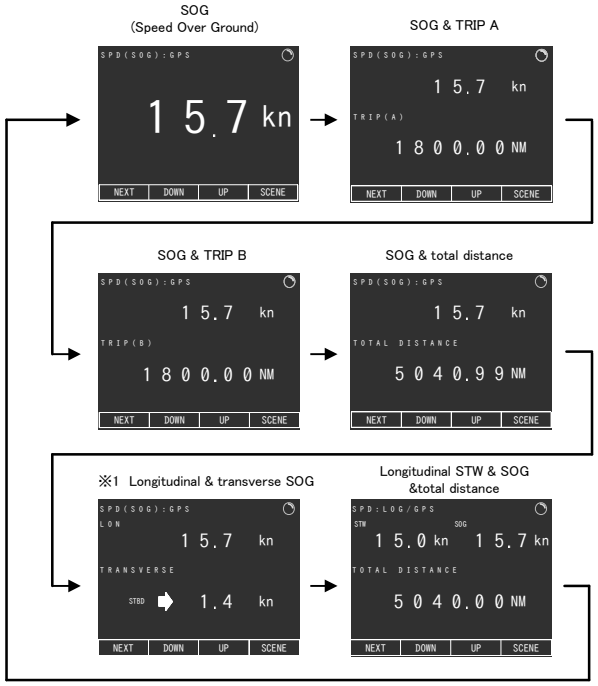
The indicating information is changed as below by pressing ●key on Master indicator.



※1: In case of Dual-axis sensor is equipped
※2: In case of Dual-axis sensor is equipped and GYRO is connected.
※3: ※2 and GPS signal is connected.
※4: In case of GPS signal is connected.

・MAINTENANCE screen can confirm following settings which are required to be adjusted during the rigging and service attendance
・Screen scene : 3 kind of scene are available(Day/Dusk/Night). Press ■ key to select.

・Screens during GPS mode
The indicating information is changed as below by pressing ●key on Master indicator.



※1: In case of GYRO signal is input.

・Wiring position : Coaming of backside
・Installation : Desk-top／Wall mount
・Construction : Water resistant

☐Junction box MLN090

The junction box is used for connection between sensor and master unit. And it is connected by maker supply cable and ship-builder supply cable.
・Installation : Wall mount
・Wiring position : Ground with water resist

☐Speed indicator MHR130(Single-axis)/LR525(Dual-axis)

This is a large analog indicator with an outside diameter of 200mm/180mm
The indicative variations are speed, longitudinal/transverse speed (for Dual-axis) and resultant speed/direction. And the scale plate is prepared each measurement range.

・Power supply : 24V DC 0.3A (7.5W)
・Capacity : 4 circuits max
However, the forth is necessary to have the power supply of 24V DC from external.
・Input signal : Digital signal
・Illumination : LED Illumination
・Dimmer : Built-in or external
・Wiring position : Back part
・Installation : Flash mount or Wall mount
・Construction : Water resistant

☐Dimmer Box MRD010/MRD011(MHR130), LD001A(LR525)

For MHR130/LR525
・Power supply : 100V to 115 or 200V to 230V AC
・Wiring position : Coaming
・Installation : Wall/Flush mounted type

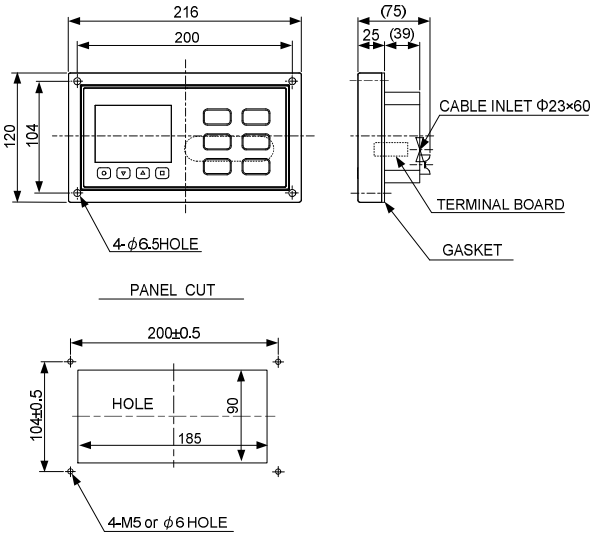
Sea-bottom (Sensor)

※ Please refer to another document (Sea valve and equipment).

Outline and Type No. and Suffix code

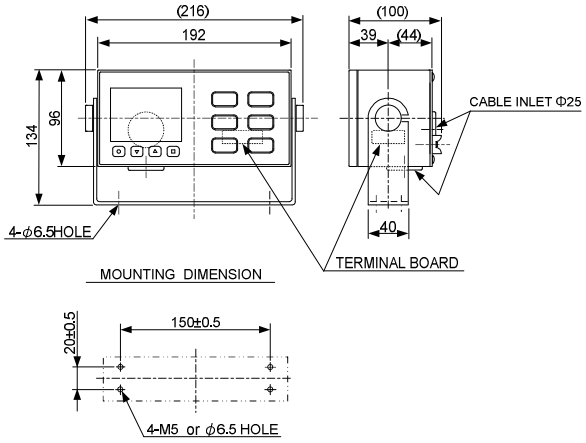
Master indicator（Flush mounted type：with bezel）

MLH533-F□E-□□1-N



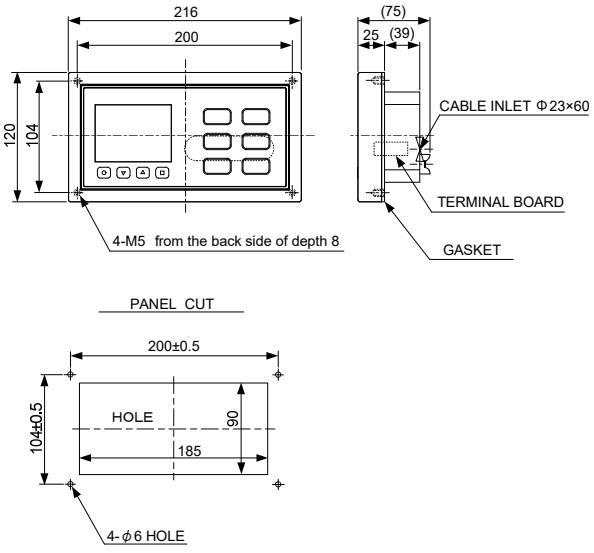
Master indicator（Desk top type）

MLH533-D□E-□□1-N



Master indicator（Flush mounted type：with bezel）

MLH533-R□E-□□1-N



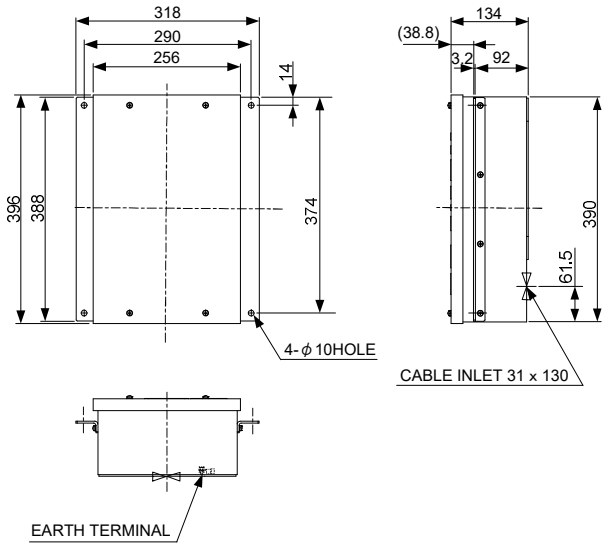
Master indicator MLH533-X1 ･･･ X7/option

Type No.	Suffix	Note
MLH533	･･･････････････････	EML900
Style	−F	Flush mount (with bezel)
	−R	Flush mount(with bezel) (Note1)
X1	−D	Desk top type or Wall mount
System	1	Single−axis
X2	2	Dual−axis
Sheet−key character	E	English
X3		
Standard	−1	JG
	−2	MED
X4	−N	Without
Name plate	1	Japanese & English
X5	2	English
Color	1	Munsell 0.8Y2.5/0.4(LAMP BLACK) (Note 2)
X6		
Fixed code	−N	
X7		
Option	/CHS	Name plate in chinese

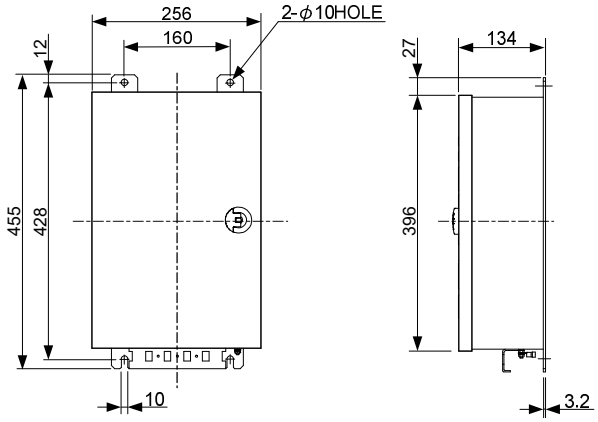
(Note1) Please note that suffix code is different from LR523(EML500).
LR523−D⇒MLH533−R(Flush mount)、LR523−W⇒MLH533−D(Desk top)

(Note2) It describes the color of display and bezel (X1=−F,−R)
The color of desk top type (X=−D) and back cover is N1.0 (Black)

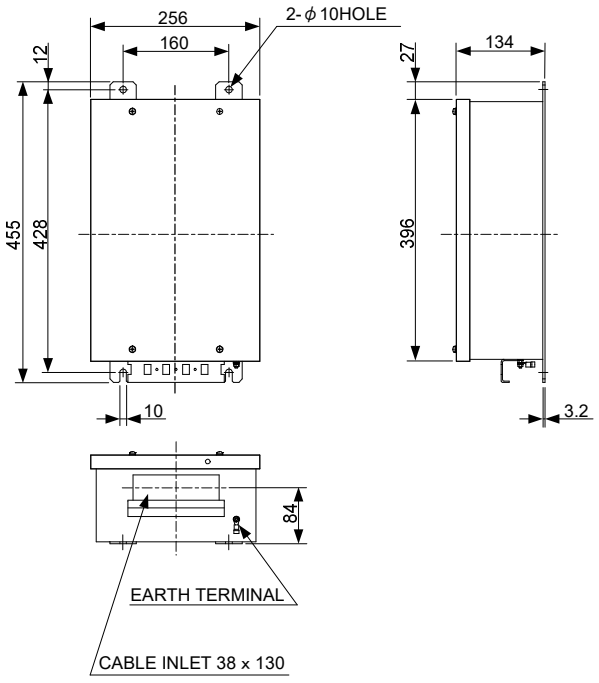
Master unit（Flush mounted type：4 point-stop）
MLC301-F1□-□□□-□□□-□□□-□□□-N□

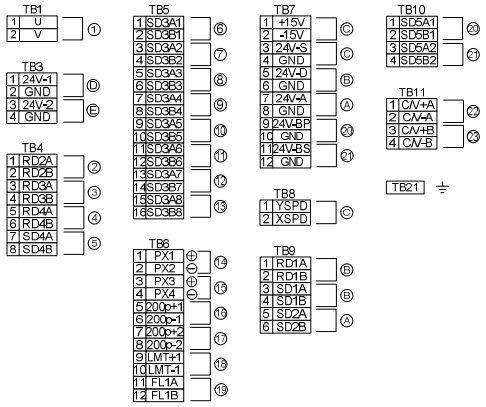


Master unit（Wall mount：4 point stop）
MLC301-W2□-□□□-□□□-□□□-□□□-N□



Master unit（Flush mounted type：Left-open with hinge）
MLC301-W1□-□□□-□□□-□□□-□□□-N□





① SHIP'S POWER SUPPLY
② GPS BACK-UP INPUT
③ GYRO INPUT
④⑤ NOT USE
⑥⑦⑧⑨⑩⑪⑫⑬ DIGITAL SPEED OUTPUT NMEA0183(VBW)
⑭⑮ PHOTO COUPLER TYPE DISTANCE SIGNAL 200Pulse/n mile
⑯⑰ PHOTO RELAY TYPE DISTANCE SIGNAL 200Pulse/n mile
⑱ CONTACT SIGNAL OUTPUT FOR SPEED LIMIT
⑲ ALARM CONTACT OUTPUT FOR SYSTEM FAIL
⑳㉑ NOT USE
㉒㉓ ANALOG SPEED OUTPUT 0mA to 20mA or 4mA to 20mA or 0V DC to 5V DC or 1V DC to 5V DC/FULL RANGE
Ⓐ SPEED INDICATOR OUTPUT
Ⓑ MASTER INDICATOR OUTPUT
Ⓒ JUNCTION BOX INPUT/OUTPUT
ⒹⒺ DC POWER FOR OUTPUT

Master unit MLC301-X1 ･･･ X17/Option

Type No.	Suffix	Note
MLC301	･･･････････････	EML900
Style	－F	Flush mount (Note 1)
X1	－W	Wall mount
Cover	1	4 point-stop
X2	2	Left-open (with hinge) (Note 1)
System	1	Single-axis
X3	2	Dual-axis (Note 2)
Ship's power	1	100V AC 50/60Hz 1Φ (Note 3)
	2	110V AC 50/60Hz 1Φ (Note 3)
	3	115V AC 50/60Hz 1Φ (Note 3)
	4	200V AC 50/60Hz 1Φ (Note 3)
X4	5	220V AC 50/60Hz 1Φ (Note 3)
Measurement range	1	－4kn to 20kn
	2	－5kn to 25kn
	3	－7kn to 35kn
	4	－8kn to 40kn
	5	－10kn to 50kn (Note 4)
X5	6	－13kn to 65kn (Note 4)
Standards	1	JG
	2	MED (Note 5)
X6	N	None
Name plate	－1	Japanese & English
X7	－2	English
Color	1	Munsell 0.8Y2.5/0.4
	2	Munsell 2.5G7/2
X8	3	Munsell 7.5BG7/2
GPS input signal	1	xxVTG , 4800bps
	2	xxVTG/xxZDA , 4800bps
X9	N	None
GYRO signal input format	－1	xxHDT/xxROT (Note 6)
	－2	xxTHS/xxROT (Note 6)
	－3	PYDKH/HRC (CMZ900 repeater signal) (Note 6)
X10	－N	None
GYRO signal input transmission rate /transmission period	1	4800bps/200ms
	2	9600bps/100ms (CMZ900 repeater signal)
	3	38400bps/20ms
X11	N	38400bps/20ms
Serial signal output	1	IEC61162-1
	2	NMEA0183 Ver.2.0
X12	3	NMEA0183 Ver.2.3
Analog output range	－1	DC 0-5V (0-20mA) 0kn : 0V (Note 7)
	－2	DC 1-5V (4-20mA) 0kn : 0V (Note 7)
	－3	DC 0-5V (0-20mA) -Full : 0V (Note 7)
	－4	DC 1-5V (4-20mA) -Full : 1V (Note 7)
X13	－N	No analog output
Analog output form	V	Voltage output (2ch Isolation)
	C	Voltage output (2ch Isolation)
X14	N	No analog output
BAMS I/F	N	None
X15		
Fixed code	－N	
X16		
Name plate	1	FB1
	2	FB2
	3	HD1
X17	N	None
Option	/C	Chinese

(Note1) x1=-F(Flash mount) and x2=2(left-open with hinge) shall not be combined.

(Note 2) In case of dual-axis sensor, transverse speed can not be measured according to the sensor position of the installatoion. It should be considered in advance.

(Note 3) Suffix code is different according to ship's power (100-220V) but power supply is in common. There is no difference in product specification.

(Note 4) 50/60kt should be considered in advance for the sensor installation, the position of the installation etc･･･.

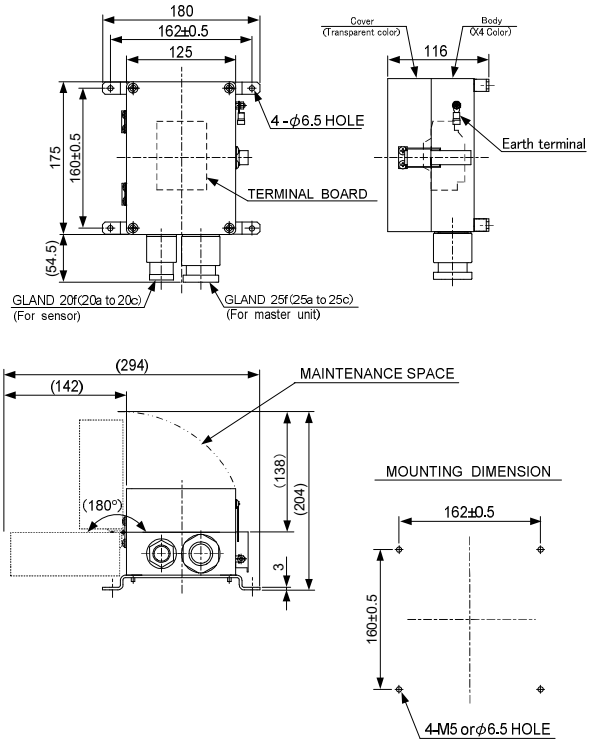
(Note 5) If standard is MED, select measurement range X5＝1(－4kn to 20kn) and X5＝2(－5kn to 25kn).

(Note 6)GYRO input signal for berthing
If X10=-1～-2 is selected, Please select X11=1～3.
If X10=-3 (PYDK/HRC) is selected, Please select X11=2 (9600bps).

(Note 7) If analog output range X13=-1～-4 is selected、Please select x14=V or C.

Junction box

MLN090-W□□-□□1N



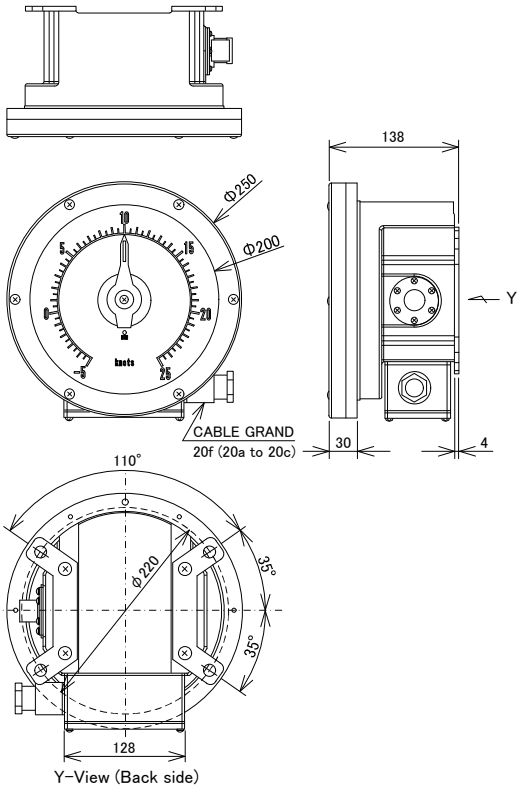
Junction box MLN090-X1 ･･･ X6/Optiopn

Type No.	Suffix	Note
MLN090	･･･････････････	EML900
Style	－W	Wall mount
X1		
Standard/Name plate	1	JG
	2	MED
X2	N	None
Name plate	1	Japanese & English
X3	2	English
Color	－N	No painted (White grey RAL7035)
X4		
Grand size	1	25f (for Master Unit)
X5		
Fixed code	N	
X6		
Option	／C	Name plate in Chinese

Analog indicator

Single-axis (Wall mount)

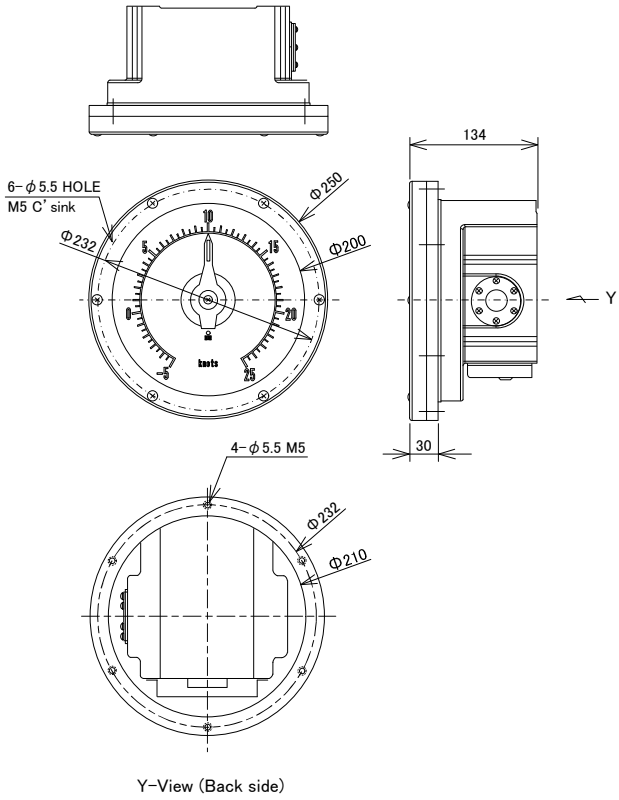
MHR130-SPD-W□□-□□□-□□□-□□-□□□



Analog indicator

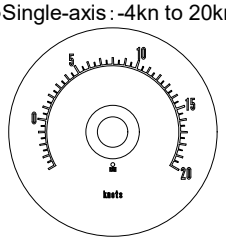
Single-axis (Flush mounted type)

MHR130-SPD-F□□-□□□-□□□-□□-□□□

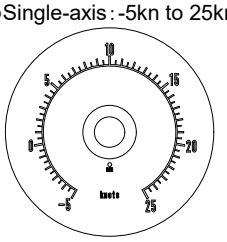


Scale plate list

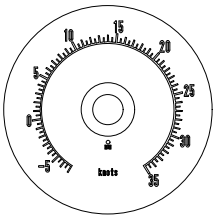
○Single-axis : -4kn to 20kn



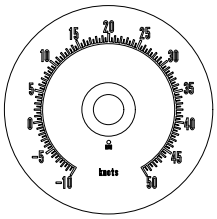
○Single-axis : -5kn to 25kn



○Single-axis : -7kn to 35kn



○Single-axis : -10kn to 50kn

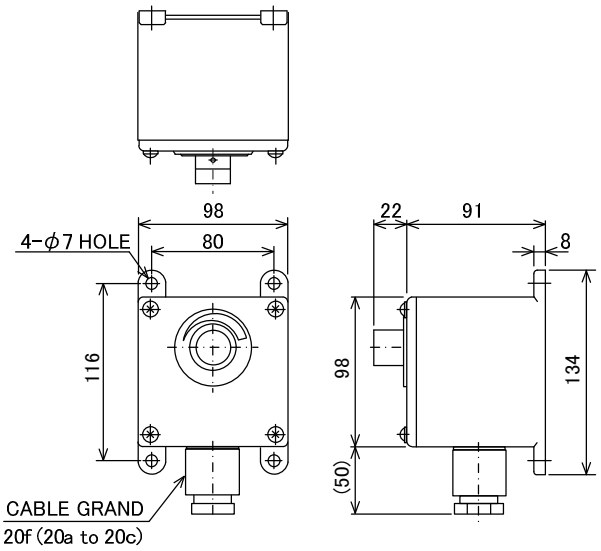


Analog indicator MHR130-X1 ・・・ X12/Option

Model	Suffix	Note
MHR130	・・・・・・・・・・・・・・・・・・・・	
Function X1	−SPD	Speed indicator
Style X2	−F	Flush mount
	−W	Wall mount
Cable inlet 1 X3	0	Not use
	1	Coaming
	2	Grand
Cable inlet 2 X4	0	Not use
	1	Coaming
	2	Grand
Power X5	−1	100～220VAC, 50/60HZ, 1φ
	−2	24VDC (Not isolate)
Dimmer X6	0	Without
	1	Built in
	2	DC dimmer supply by YDK
	3	DC dimmer supply by YARD
	4	100V AC dimmer supply by YARD
Backlight color X7	0	Non
	1	Umber
	2	Green
Scale range X8	−S20	−4kn～20kn
	−S25	−5kn～25kn
	−S35	−7kn～35kn
	−S50	−10kn～50kn
Input signal X9	−21	Speed signal(PYDK:for indicator, 4800bps)
	−22	Speed signal(PYDK:for indicator, 9600bps)
Standard X10	−0	Not applicable
	−1	JG
	−2	MED
Name plate X11	1	Japanese & English
	2	English
Color X12	1	Munsell 0.8Y2.5/0.4(LAMP BLACK)
	2	Munsell 2.5G7/2
	3	Munsell 7.5BG7/2
Option	/C	Chinese

MRD010 Dimmer box

MRD010-W-20F-□□□□

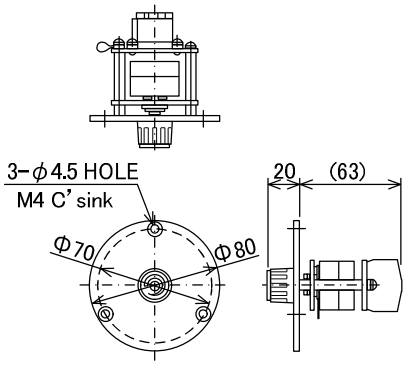


Dimmer box MRD010-X1･･･X5

Type. No	Suffix	Specification
MRD010	･･･････････････････	Dimmer box
Style X1	−W	Wall mount (Water proof)
Cable inlet X2	−20F	Glands 20f
Standards X3	−0	Not applicable
	−2	MED
Name plate X4	5	Japanese & English
	6	English
Paint color X5	2	Munsell 2.5G7/2
	3	Munsell 7.5BG7/2

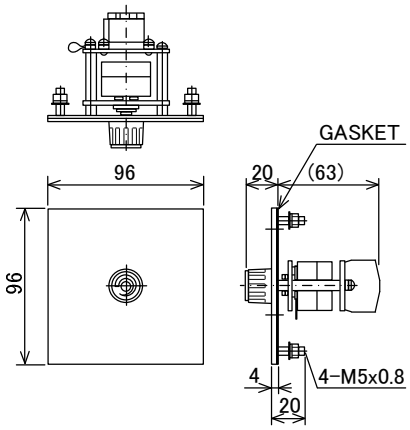
MRD011-N Dimmer unit (Dimmer only)

MRD011-N□□-□



MRD011-F Dimmer unit (Flush mounted type)

MRD011-N□□-□



Dimmer unit MRD011-X1･･･X4

Type No.	Suffix		Specification
MRD011	･･･････････････････		Dimmer unit
Style X1	−N		Dimmer only
	−F		Flush mount
Standards X2	0		Not applicable
	2		MED
Name plate X3	5		Japanese & English
	6		English
Paint color X4	−1	Note 1	Munsell 0.8Y2.5/0.4 (LAMP BLACK)
	−4	Note 2	Black

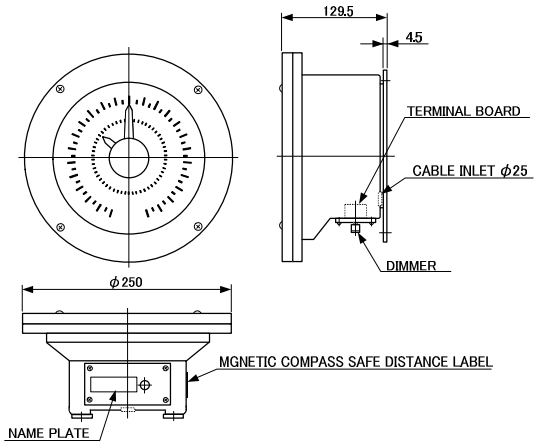
Note1 : If X1 = −N is selected, Please select X4 = −1.

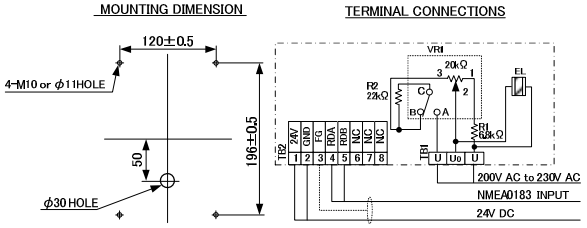
Note2 : If X1 = −F is selected, Please select X4 = −4.

LR525-W Analog indicator

Dual-axis（Wall mount）

LR525-W□□-□□□□□-□

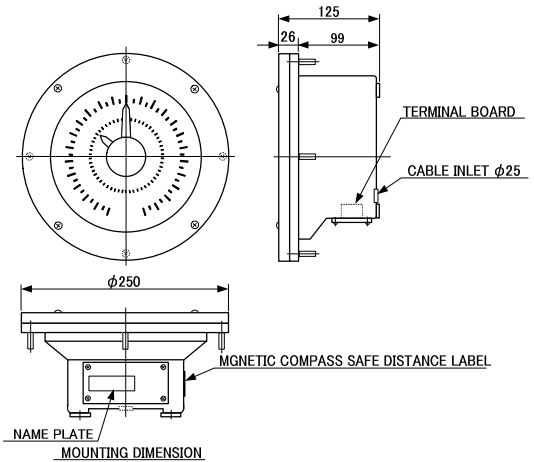


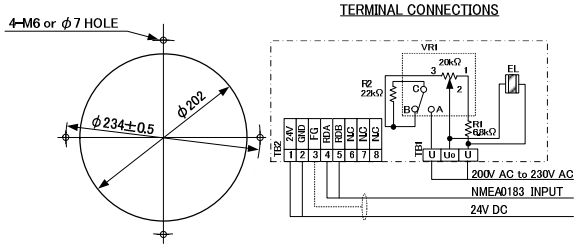


LR525-F Analog indicator

Dual-axis（Flush mounted type）

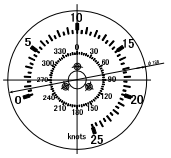
LR525-F□□-□□□□□-□

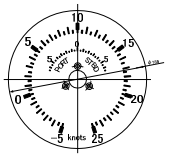




Scale plate list

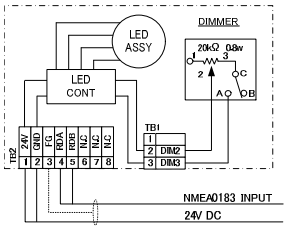
○resultant speed/direction ○longitudinal／transverse speed





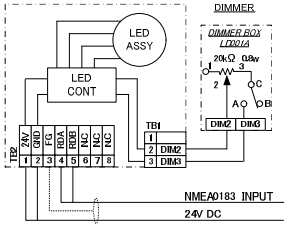
Built-in dimmer LED illumination

TERMINAL CONNECTIONS



Separate dimmer LED illumination

TERMINAL CONNECTIONS



Speed indicator（Dual-axis） LR525-X1 ･･･ X9/Option

Type No.	Suffix	Note
LR525	･･･････････････	EML500/900（Dual-axis）
Style	－F	Flush mount
X1	－W	Wall mount
Measurement range	1	－ 4kn to 20kn （Note1）
	2	－ 5kn to 25kn
	3	－ 7kn to 35kn
	4	－ 8kn to 40kn
	5	－10kn to 50kn
X2	6	－13kn to 65kn
Scale plate	1	Longitudinal/Transverse speed
X3	2	Resultant speed/Direction
Illumination	－A	LED Orange color
X4	－B	LED Green color
Dimmer／Power supply	1	External/100V to 115V AC 50/60Hz 1Φ
	2 （Note2）	Built-in/100V to 115V AC 50/60Hz 1Φ
	3	External/200V to 230V AC 50/60Hz 1Φ
	4 （Note2）	Built-in/200V to 230V AC 50/60Hz 1Φ
	5	External/LED illumination
	6	Built-in/LED illumination
X5	N	Illumination not use
Wiring position	1	Corming φ25
X6	2	Grand （Note3）
Standard／Name plate	1	None／Japanese & English
	2	JG／Japanese & English
	3	JG／Japanese
X7	4	None／English
Color	1	Munsell 0.8Y 2.5/0.4
	2	Munsell 2.5G7/2
X8	3	Munsell 7.5BG7/2
Name plate	－N	None
X9		
Option	／CHS	Name plate in Chinese

(Note 1) Case of Resultant speed/Direction are not indicate (-) date. Indicate 0 to XX kt.

(Note 2) X5=2 and X5=4 are use for LR25 built-in dimmer unit only.

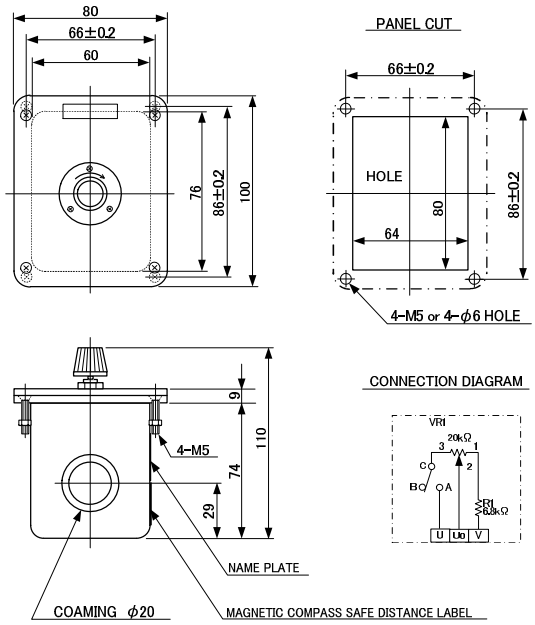
(Note 3) X6=2 Grand is use for wall mount only.(15b.20c each 1 use)

Dimmer box（Flush mounted type）

LD001A-F□□□-□

（Connection diagram is for EL board）

MODEL	LD001A-F
MASS	0.5 kg

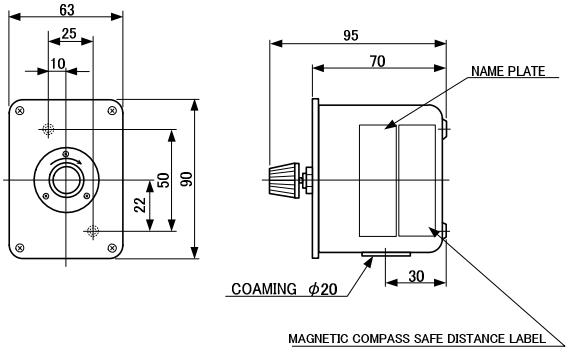


Dimmer box (Wall mount type)

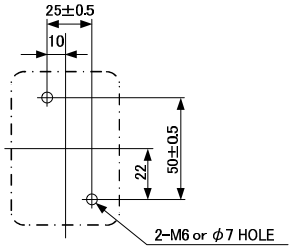
LD001A-W□□□-□

（Connection diagram is for EL board）

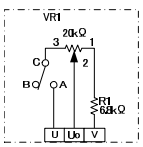
MODEL	LD001A-W
MASS	0.5 kg



MOUNTING DIMENSION



CONNECTION DIAGRAM



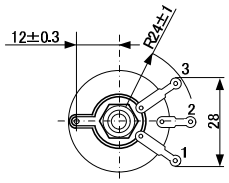
Dimmer switch

LD002-A□□1

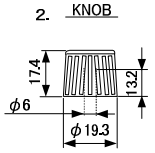
（Connection diagram is for LED illumination）

MODEL	LD002
MASS	0.1 kg

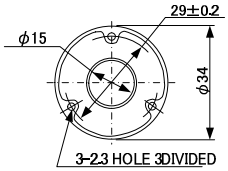
1. VARIABLE RESISTOR 20kΩ 0.8w

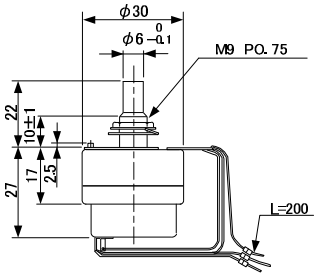


2. KNOB

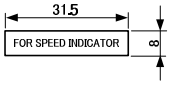


3. NAME PLATE

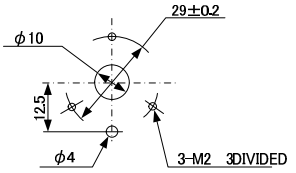




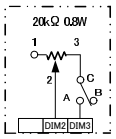
4. NAME PLATE



PANEL CUT



CONNECTION DIAGRAM



Dimmer box LD001A-X1 ･･･ X5/Option

Type No.	Suffix	Note
LD001A	･･･････････････	EML500/50/201/900
Style	－F	Flush mount
X1	－W	Wall mount
Standard／Name plate	1	None／Japanese & English
	2	JG／Japanese & English
	3	None／English
	5	JG／Japanese
	6	MED／Japanese & English
X2	7	MED／English
Color	1	Munsell 2.5G7/2
X3	2	Munsell 7.5BG7/2
Power supply	1	100V AC to 115V AC
	2	200V AC to 220V AC
X4	3	LED illumination
Name plate	－N	None
X5		
Option	／C	Name plate in Chinese

Dimmer switch LD002-X1 ･･･ X4

Type No.	Suffix	Note
LD001A	･･･････････････	EML500/50/900
Style	－A	Inner parts only
X1		
Power supply	1	200V
	2	100V
X2	3	LED illumination
Standard／Name plate	1	Japanese
X3	2	English
Usable equipment	1	LR524／LR525
X4		