Digital Counters
New Type

Equipped with large display functions and various measurement functions, our Digital Counters can be installed in a Control Panel or placed on a desk due to their compact designs.
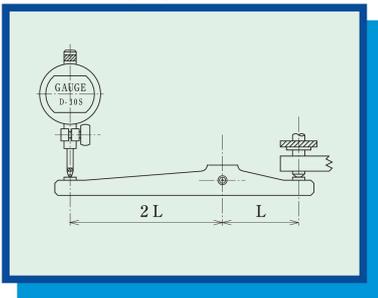
Simple type
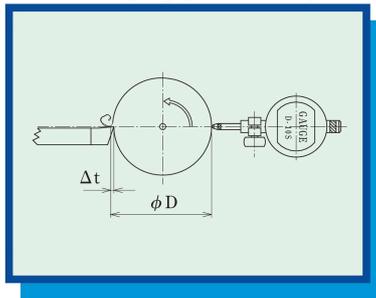Priority on user friendliness.
C-500

Multi-type
User friendliness combined with multi-functionality.
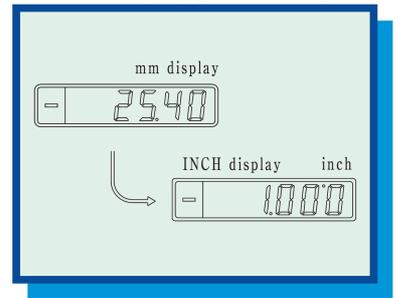**C-700**

1/2 Display (C-500/C-700)

Displays the displacement after halving it.

×2 Display (C-500/C-700)
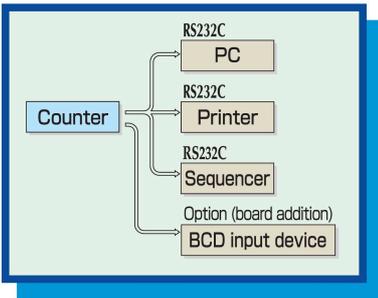
Displays the displacement after doubling it.

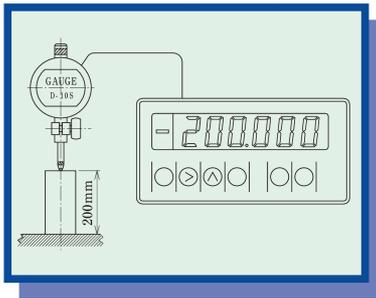### Inch Display (C-500/C-700)

mm display

INCH display   inch

Displays the displacement in terms of inches.

Data Output (C-500/C-700)
(Standard function of RS-232C, optional function of BCD)

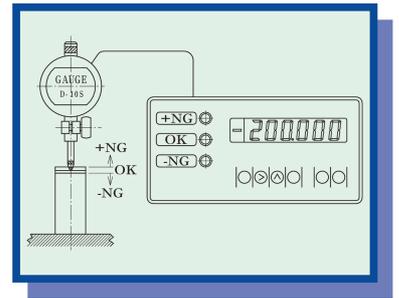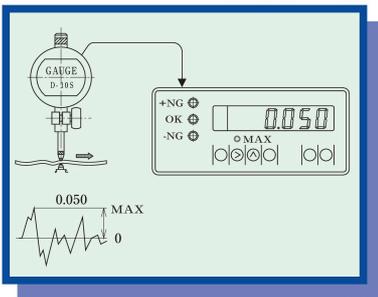RS232C
PC

RS232C
Printer

Counter

RS232C
Sequencer

Option (board addition)
BCD input device

Outputs data

Presetting (C-700)

Displays preset values.

OK±NG Judgment (C-700)

+NG
OK
−NG

Outputs OK±NG judgment.

Maximum Value Display (C-700)

+NG
OK
−NG

MAX

0.050 MAX
0

Holds the maximum positive value and makes OK±NG judgment.

Minimum Value Display (C-700)

+NG
−NG

MIN

0
MIN
0.045
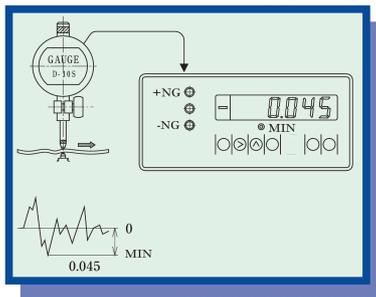
Holds the minimum negative and makes OK±NG judgment.

Deflection Measurement Display (C-700)
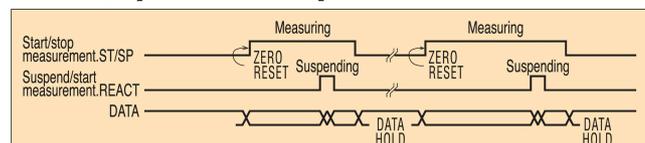
+NG
OK
−NG

P-P

MAX
0
MIN
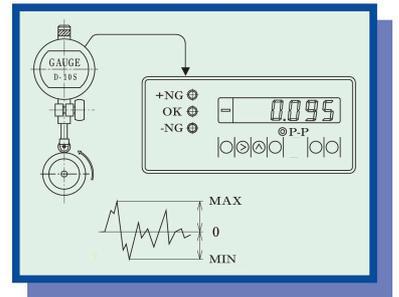
Holds the difference between the maximum and minimum values (deflection) and makes OK±NG judgment.

Specifications of Digital Counters

Model	Model No. C-500	Model No. C-700
Displayed digits ∗Selection of 10 μm ∗Selection of 1 μm Display	－9999.99～00.00～9999.99 －999.999～0.000～999.999 High-luminance LED display with 7segments (red)	
Power supply voltage & power consumption	AC100V～AC240V ・ 9VA or lower	
Operating temperature	0～+40℃	
Compatible Linear Gauges Selection of 10 μm display	DL-2 D-5 D-10 D-20 D-30 D-50 D-100 DN-10 DN-20 D-5UZ	
Selection of 1 μm display	DL-2S D-5S D-10S D-20S D-30S D-50S D-100S DN-10S DN-20S	

Accessories

◆AC power cord (2m): One cord

◆Metal fittings for panel installation: Two units (to be used for installation in panel and securing stand fittings)

◆Stand fittings: One unit (to be used when counter is used as desktop device)

Terminal block functions (Rear panel)

◆Terminal block: Screwless terminal block

◆Usable electric cables: AWG22-28

◆Length of peeled wire of cables: 8～9mm

◆Pin alignment

∗1	St/Sp	Contorls "START" and "STOP" of MAX, MIN. P-P measurement mode.
∗2	React	Controls "SUSPEND" and "START" of P-P measurement mode.
3	Latch	Controls "LATCH" and "CANCEL" of measured value.
4	Reset	External "RESET" "PRESET" (Function available only in Model No. C-700)
5	Alarm	Error signal output
∗6	－NG	Outputs -NG based on OK±NG judgment (red LED).
∗7	OK	Outputs OK based on OK±NG judgment (green LED).
∗8	＋NG	Outputs +NG based on OK±NG judgment (orange LED).
9	GND	GND

Max Display	Min Display	P-P Display
＋NG (2)	－NG (1)	NG (2)
OK	OK	OK
＋NG (1)	－NG (2)	NG (1)

(1)：NG output in first stage
(2)：NG output in second stage

∗ marked numbers indicate functions available only in Model No.C-700

Dip sw setting functions (Printed circuit board)

Dip (1)

SW 1	Select 1 μm or 10 μm
SW 2	Select direction of counting.
SW 3	Select activation or non activation of error output.
SW 4	Select activation or non activation of overflow.

Dip (2)

SW 1	Settings by Manufacturer
SW 2	Select whether or not to include default values for OK ±NG judgment.
SW 3	Select either "orthogonal" or "sine" for input waveform.
SW 4	Select either 400msec or 100msec for RESET time.

Data output (RS-232C) D-Sub9P plug INCH screw

◆Pin Alignment

1	NC	－
2	Rxd	in←
3	Txd	→out
4	NC	－
5	SG	－
6	NC	－
7	RTS	→out
8	CTS	in←
9	NC	－

◆Communication mode: Half-duplex asynchronous communication

◆Communication speed: 9600bps

◆Format: 7Bit ASCII

◆Parity: even number

◆Stop bit: 1Bit

◆RTS/CTS: Returned when not in use.

◆Reception command: Transmission request ASCII [T] [t]
                        : Reset ASCII [R] [r]

◆Connection cables: Cross cables (not included)

Options ∗BCD output board

◆CB-BCD
   Can not be used in combination with RS-232C output.

Display functions

◆1/1 display: Displays the measured value as is.

◆1/2 display: Displays the measured value after halving it.

◆×2 display: Displays the measured value after doubling it.

◆INCH display: Displays the value after converting it into inches.
   Note: With 1 μm display and ×2 display, the lowest digit will be displayed as an even number.

Presetting display function

◆Zero setting only | ◆Can display preset values

Measurement mode function 「MAX」 「MIN」 「P-P」

――――――― | ◆Current value dispiay
◆Maximum value(Max)
◆Minimum value(Min)
◆Deflection(P-P)   RESET action is taken by ST of the ST/SP control terminal.

OK±NG judgment function (Refer to terminal output circuit)

――――――― |

◆Current value mode:	＋NG	OK	－NG
◆Maximum value mode:	OK	＋NG(1)	＋NG(2)
◆Minimum value mode:	OK	－NG(1)	－NG(2)
◆Deflection mode:	OK	NG(1)	NG(2)

Dimensions & weight

◆144(W)×72(H)×160(D)mm | ◆950g

Time Chart [Model No.C-700]

Start/stop measurement.ST/SP
Suspend/start measurement.REACT
DATA

Measuring   ZERO RESET Suspending Measuring   ZERO RESET Suspending

DATA HOLD   DATA HOLD

Control Terminal Input Circuit

5V
1 kΩ
Inside counter
GND
Photo coupler: 5V(Max 5mA)
Response time: Approx. 100msec
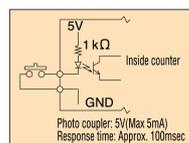
Pin No.1 ST/SP
Pin No.2 REACT
Pin No.3 LATCH
Pin No.4 RESET

Terminal Output Circuit

OUT
GND
Inside counter
GND
Open collector output
Voltage: Max DC20V
Current: MAX 20mA
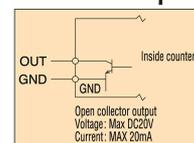
Pin No.5 ALARM
Pin No.6 -NG
Pin No.7 OK
Pin No.8 +NG

11

with High Resolution

- Resolution capability of 0.1μm / 0.5μm.
- Recommended for very high precision measurement.

C-7HS
Resolution: 0.0001mm (0.1μm) / 0.0005mm (0.5μm)

Specifications

Model	C-7HS
Resolution	0.0001mm (0.1μm) ／ 0.0005mm (0.5μm)　Please specify either 0.0005mm or 0.0001mm display at the time of purchase.
Display	6 digits display with ±sign ±99.9999
Response speed	100mm／sec
Weight	2.6kg
Display	Green fluorescent light display
Power supply	AC100V～AC240V（90～100V）　50／60Hz
Dimensions	200（W）×230（D）×60（H）mm
Operating temperature	0 to 40°C ／ storage, at −5 to 50°C
Compatible linear gauges	0.0001mm : D-10HS ／ 0.0005mm : D-10SS
Accessories	● Built-in tilt stand (tilts the front of the counter up at slight angle for easier reading)
Functions	● RESET·····For zero reset at any desired position ● DIRECTION·····Numerical direction can be changed by DIRECTION switch located on back panel ● CLOCK OUT·····Outputs BCD's signal simultaneously (1μsec) ● ALARM OUT·····Output abnormal value when response speed is exceeded ● LATCH IN·····Holds the display value and external output data ● RESET IN·····For zero reset from external unit via its RESET input
Data output (RS-232C／BCD OUT)	● Output by positive logic, parallel digits and open collector ● Connector·····57-40360 DDK equivalent connector (amphenol type) should be used. 　It is not attached on the cable side. (57-30360 equivalent connector is recommended)
Options	● Printer (PDP-1N)·····Statistic operation ● External RESET／LATCH function: C-7HS-RL.

Digital Counters

with Judgement Function

● Equipped with Judgement function OK, ±NG (No Go).
● Either 10μm or 1μm resolution setting can be selected.
● 2X or 1/2 X Display magnification.

CM-5B

| Resolution: 0.005mm／0.001mm convertible |

Specifications

Model	CM-5B	
Resolution	0.005mm or 0.001mm select by conversion switch	
Display capacity	For 0.005mm, 0 ～±199.995mm	
	For 0.001mm, 0 ～±199.999mm	
Judgement setting display	Lower and Upper limit setting via digital switch of 6 digits each	
Response speed	1000mm／sec at 0.005mm setting 600mm／sec at 0.001mm setting	
Quantizing error	±1 count	
Judgement Output	Output from relay contact point (a contact point) (DS1-S-DC5V Matsushita or equivalent product)	
Judgement Display	－NG (Yellow), OK(Green) & ＋NG(Red)	
Operating temperature	0 to 40°C／for storage, at －10 to 50°C	
Power supply	AC100V～AC240V(90V ～ 110V) 50／60Hz	
Weight／Dimensions	2.2kg　200（W）×230（D）×70（H）mm	
Functions	● User selectable resolution (0.001mm at time of shipment).	
	● Equipped with failure alarms (When counting error or gauge fails, display blinks)	
	● Judgement output is constantly on (control output is possible with an additional optional connector)	
	● Setting values for judgement is included in ±NG at shipment (Changeable)	
	● BCD output can be connected to, for example, a sequencer by using open collector.	
Data output (RS-232C／BCD OUT)	● Output by positive logic, parallel digits and open collector	
	● Connector ·················57-40360 DDK equivalent connector should be used.	
	It is not attached on the cable side.	
Compatible linear gauges	At 0.005mm setting	At 0.001mm setting
	DL-2, D-5, D-10, D-20,	DL-2S, D-5S, D-10S, D-20S、
	D-50, D-100,	D-50S, D-100S
	D-5UZ, DN-10, DN-20	
Accessories	● Judgement output connector ·······························1 pc. (PRC03-12A10-4F10.5 Tajimi brand)	
Options	● Additional pass／fail detection control connector (attachable to the back panel). Includes CM-5B-CONT.	
	● External RESET ／ LATCH connector is added (on back panel). CM-5B-RL.	
	● Tilt stand is added (for tilting display for easy viewing). CM-5B-ST.	
Mounting Precaution	When mounting into rack requires the removal of bottom rubber support, screws must be applied at regular intervals.	
	(Avoid screws penetration into body as damage to printed circuit board is high)	

Digital Counters