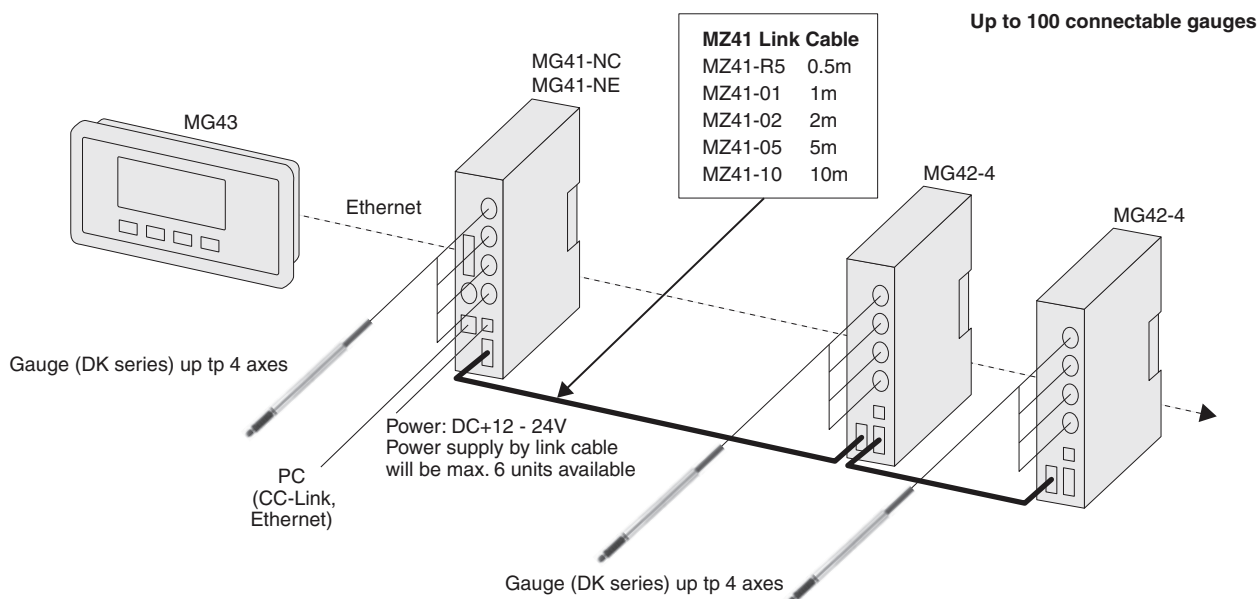# MG

MG40 SERIES

Intelligent Network system

- Up to 100 connectable gauges
- High speed data communication 100Mbit/sec
- Compatible with Ethernet, cc-Link
- Operating voltage : 12-24VDC
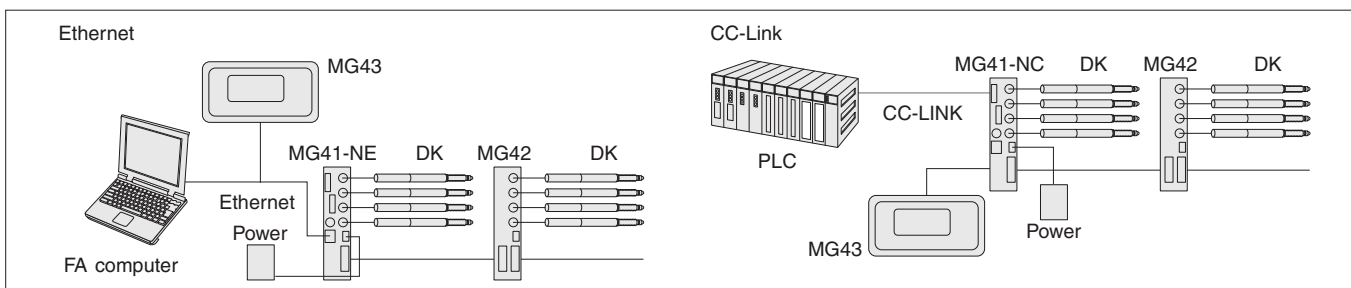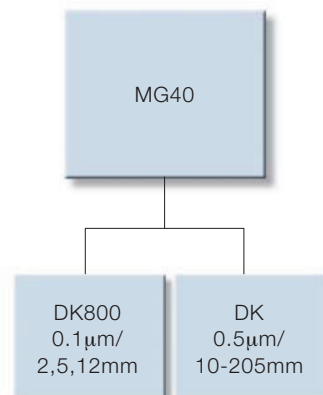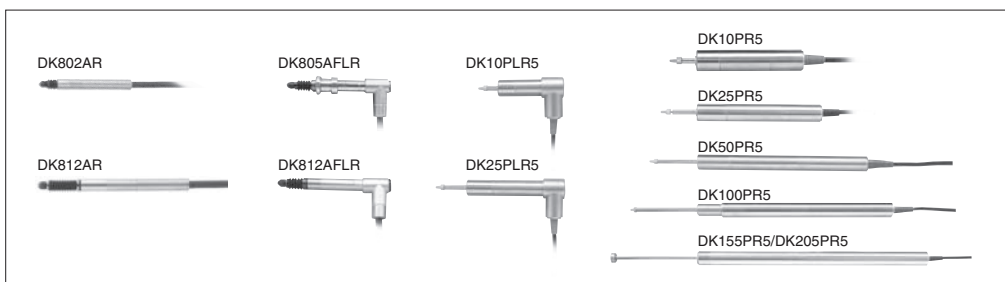- DIN rail mounting (35mm)

Interface unit

System structure

MZ41 Link Cable

MZ41-R5	0.5m
MZ41-01	1m
MZ41-02	2m
MZ41-05	5m
MZ41-10	10m

Up to 100 connectable gauges

MG41-NC
MG41-NE

MG43

Ethernet

Gauge (DK series) up tp 4 axes

PC
(CC-Link,
Ethernet)

Power: DC+12 - 24V
Power supply by link cable
will be max. 6 units available

MG42-4

MG42-4

Gauge (DK series) up tp 4 axes

MG series System structures

Ethernet

MG43

MG41-NE   DK   MG42   DK

Ethernet
Power

FA computer

CC-Link

MG41-NC   DK   MG42   DK

CC-LINK

PLC

MG43   Power

Spec.	Model	DK802A/B	DK805A/B	DK812A/B	DK10	DK25	DK50	DK100	DK110	DK155	DK205
Min.resolution		0.1µm			0.5µm						
Accuracy		1µm			2µm			4µm		5µm	6µm
Measuing Range		2mm	5mm	12mm	10mm	25mm	50mm	100mm	110mm	155mm	205mm

DK802AR

DK805AFLR

DK10PLR5

DK10PR5

DK25PR5

DK812AR

DK812AFLR

DK25PLR5

DK50PR5

DK100PR5

DK155PR5/DK205PR5

MG40

DK800
0.1µm/
2,5,12mm

DK
0.5µm/
10-205mm

MG40

Specifications

Item	Conditions	Description	Remarks
No. of connectable measuring units	Entire system	1 to 100 units (Connection disabled after connection of 101st unit.)	Up to 24 connected MG42 hub units
	MG41 main unit	0 to 4 axis	
	MG42 hub unit		
Connectable measuring units		DK800A/DK 800B series, DK10, DK25, DK50, DK100, DK110, DK155, DK205	
Connection cable length		Between MG41 main unit and MG42 hub unit, between MG42 hub unit and MG42 hub unit: 0.5 m, 1 m, 2 m, 5 m, 10 m Total cable length from MG41 main unit: Maximum 30 m(Maximum current: 4 A or less)	

Resolution			Settable output data resolution and display resolution				
Measuring unit resolution (input resolution)	0.1µm	0.1µm	0.5µm	1µm	5µm	10µm
	0.5µm	-	0.5µm	1µm	5µm	10µm

Item	Conditions	Description	Remarks
Measuring unit data import capacity	10 Mbps data transfer	Maximum 10,000 data/s (when 100 axes are connected)	The data for one axis is counted as one data.
Peak-hold function		Calculation of maximum value, minimum value, and peak-to-peak value for each axis (including pause, latch, and start functions)	
		Peak value is not updated during pause.	
		Output and display data are not updated during latching (internal data is updated)	
		Recalculation of peak value is started by start function.	
Output data	Single axis	Current value, maximum value, minimum value, and peak-to-peak value for each axis	Single axis calculation of an addition/subtraction axis is not possible(for preventing inconsistencies in calculation).
	Addition and subtraction	Current value, maximum value, minimum value, and peak-to-peak value for the two-axis addition/subtraction axis	
Comparator function		Data for each axis (single axis, addition/subtraction axis) is compared and measured, and the comparator results are output.(Comparator during latch is also latched.)	

Comparator function					
Comparator setting values	2 values	4 values	8 values	16 values
No. of setting value groups	16 groups	8 groups	4 groups	2 groups

Item	Conditions	Description	Remarks
Ethernet		100Base-T (compliant with IEEE 802.3) 100 Mbps/10 Mbps (Auto-negotiation) Command input, data output, and parameter setting are possible.	
Reset function		Current value for each axis is reset (by command).	
Preset function		Value is preset to the current value of each axis (by command).	
Datum point setting function		Datum point of each axis can be set (by command).	When master calibration function is not used
Reference point function		Reference point can be used to relocate the datum point of each axis (by command).	
Master calibration function		Reference point can be used to perform master calibration for each axis (by command).	Addition/subtraction axis cannot be used.
Measuring unit product information		The product information of the connected measuring unit can be acquired.	

Command/setting enabled or disabled for each communication line				Ethernet	CC–Link	
	Command	Reset function		Available	Available	When master calibration function is not used
		Preset function				
		Datum point setting function				
		Reference point function				
		Master calibration function				
		Comparator value setting				
		Comparator group number setting				
		Start				
		Pause				
		Latch				
	Data output	Current value/Peak value (All axes)			N/A	
		Current value/Peak value (each unit)				
		Comparator result				
		Alarm (Communication/Measuring unit)				
		Soft ware version				
		Measuring unit product information			Available	
	Settings	Input resolution				
		Display and output resolution				
		Axis addition				
		Comparator mode (2, 4, 8, or 16 values in 1 group)				

Item	Conditions	Description	Remarks
Supply voltage	Terminal input	DC 12 to 24 V (11 to 26.4 V)	Use a power supply with a current that is 4 A or higher.(Recommended: +24 V) (for every six MG42 hub units)
Power consumption	Note the connection conditions.	System total: Max. current 4 A	
		When the maximum current is exceeded, the connection can be enabled by providing a power supply to the MG42 hub units that come later in the connection.	
		<Details of power consumption for each unit> MG41 main unit : 4 W , MG42 hub unit : 1 W/unit , Measuring unit supply : 1 W/unit	
Operating temperature and humidity range		0 to +50 ℃ (no condensation)	
Storage temperature and humidity range		-10 to +60 ℃ (20 to 90 % RH)	
Mass		MG41 : 300 g , MG42 : 250 g	

Display unit MG43

Specifications

Item	Description	Item	Description
Compatible main units	MG41-NE/MG41-NC	Network interface	100Base-TX / 10Base-T (compliant with IEEE802.3) Auto-negotiation
Compatible hub units	Hub units compatible with the main unit	Power consumption	DC12～24V(11～26.4V)
Compatible measuring units	Measuring units compatible with the main unit or hub unit	Power supply	4W
Main functions	Measure Monitor, Setting Monitor, System Monitor	Operating temperature range	0 to +40°C (no condensation)
Communication protocol	MG40 original protocol on TCP/IP	Storage temperature and humidity range	-10～+60°C (20～90%RH)
Screen display	480 x 272 pixels, 4.3-inch TFT LCD with backlight	Mass	Approx.500g

Main unit MG41-NC(CC-Link)
Main unit MG41-NE(Ethernet)
Hub unit MG42
?MG41、42 common
Display unit MG43

<MG43 Mounting the display unit form the panel front>

Unit:mm