

MAGNESCALE

Intelligent Network System for DK Gauges



MG 40 Series

Key-Features:

- Up to 100 gauges can be connected
- High speed data communication
- Compatible with Ethernet and cc-Link
- Operating voltage: 12 - 24 VDC
- DIN rail mounting
- Current, minimum, maximum, peak-to-peak values and comparator judgement results
- Comparator setting values can be made for each of the 100 axes
- For all digital gauges series DK800S and DK

Content:

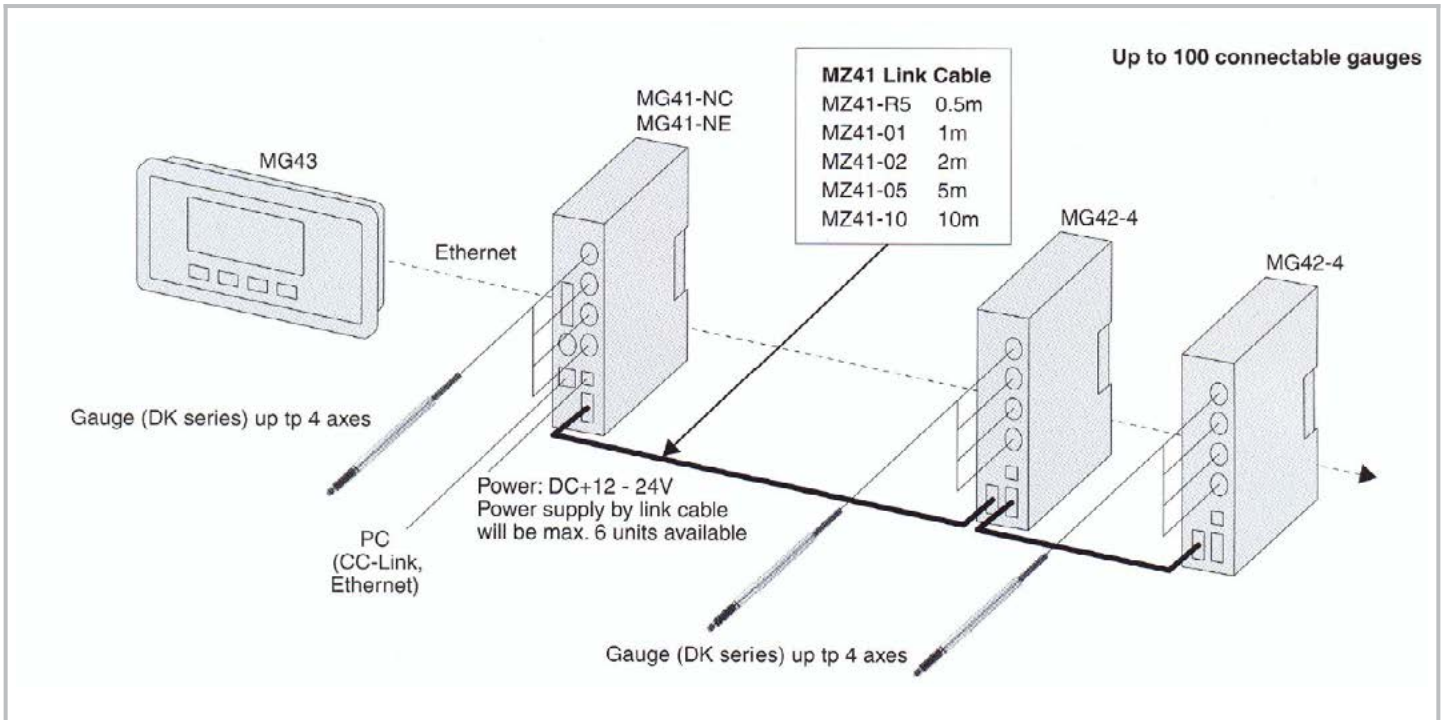
SPECIFICATIONS MAGNESCALE MG41, MG42

Item	Conditions		Description				Remarks	
Communication method			MG41-NC (CC-Link/Ethernet incorporated) / MG41-NE (Ethernet incorporated) / MG42-4 (hub unit)					
No. of connectable measuring units	Entire system		1 to 100 units (connection of 101 st unit and later disabled)				Up to 24 connected MG42	
	MG41 main unit		0 to 4 units					
	MG42 hub unit							
Connectable measuring units			DK800S, DK830S, DK800A/DK800B-Series, DK10 - DK20S					
Connection cable length			MG41 main unit to MG42 hub unit, MG42 total cable length to MG42 hub unit: 0,5m, 1m, 2m, 5m, 10m Total cable length from MG41 main unit: 30m max. (mx current: 4A or less)				Connection-cable MZ41-** (optional)	
Resolution			Settable output data resolution and display resolution					
	Measuring unit resolution (input resolution)	0,1 µm	0,1 µm	0,5 µm	1 µm	5 µm	10 µm	
		0,5 µm	-	0,5 µm	1 µm	5 µm	10 µm	
Measuring unit data fetching capacity	10 Mbps data transfer		Max. 10,000 data/sec (when 100 axes are connected)				1 axis is counted as 1 data	
Peak-hold function			Calculation of max., min. and peak-to-peak values for each axis (including pause, latch and start functions)					
			Peak value is not updated during pause					
			No output and display data during latching (but internal data is updated)					
			Recalculation of peak value is started by start function					
Output-enable data	Single axis		Current, max., min. and peak-to-peak values for each axis					
	At addition / subtraction		Current, max., min. and peak-to-peak values of addition / subtraction axes of two axes				Calculation is disabled	
Comparator function			Data of each axis (single axis, addition/subtraction) is compared and measured to output the comparator results					
Comparator setting values			2 values	4 values	8 values	16 values		
	No. of setting value sets		16 groups	8 groups	4 groups	2 groups		
Ethernet			100 Base-T (compliant with IEEE 802.3) 100 Mbps/10 Mbps (Auto-negotiation) Command input, data output and parameter setting enabled					
Reset function			The Current value for each axis is reset (with command)					
Preset function			The Value is preset to the current value of each axis (with command)					
Datum-point setting function			The Datum point of each axis is settable (with command)					
Reference point function			The Datum point of each axis can be reproduced using the reference point (with command)				When master calibration function is not used	
Master calibration function			Master calibration of each axis can be reproduced using the reference point (with command)				Addition/Subtraction axes are unavailable	
Measuring unit product information			Product information of the connected measuring unit can be acquired (with command), Product code, serial no., production date					
Command/setting enabled or disabled for each communication line			Command	Reset function	Ethernet	CC-Link		
				Preset function	●	●		
				Datum-point setting function	●	●		
				Reference point function	●	●	When master calibration function is not used	
				Master calibration function	●	●		
				Comparator value setting	●	●		
				Comparator group number setting	●	●		
				Start	●	●		
				Pause	●	●		
				Latch	●	●		
				Data output	Current value / Peak value (all axes)	●	-	
					Current value / Peak value (each unit)	●	●	
					Comparator judgement result	●	●	
					Alarm (Communication/Measuring unit)	●	●	
					Software version	●	●	
				Settings	Measuring unit product information	●	●	
					Input resolution	●	●	
					Display and output resolution	●	●	
					Axis addition	●	●	
					Comparator mode (2,4,8 or 16 values in 1 group)	●	●	
Supply voltage	Terminal board	12-24 V (11-26,4 V) DC				Used by adding power at a current of 4A or more on a six MG42 basis		
Power consumption	Cautions for connecting conditions	System total: max. current 4 A						
		MG41: the following 6 MG42 units can be supplied with power (see page 5)						
		Details of power consumption for each unit: MG41 main unit: 4W, MG42 hub unit: 1W/unit, Measuring unit supply: 1W/unit						
Operating temp. / humidity range			0 to + 50°C (no condensation)					
Storage temp. / humidity range			-10 to +60°C (20 bis 90% RH)					
Mass			MG41: 300g MG42: 250g					

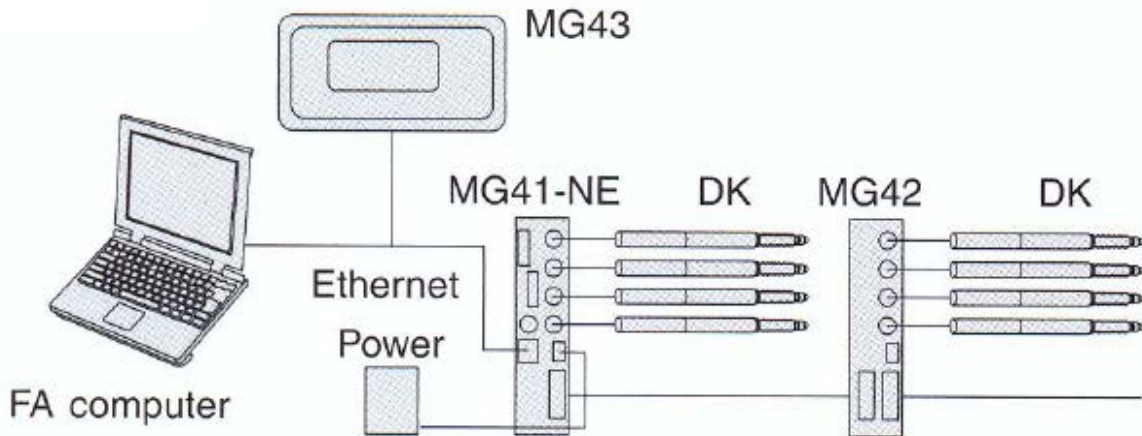
SPECIFICATIONS MAGNESCALE MG43

Item	Description	Item	Description
Compatible main units	MG41-NE / MG41-NC	Network interface	100 Base-TX / 10 Base-T (compliant IEEE802,3) Auto-negotiation
Compatible hub units	Hub units supported by the main unit	Power supply	12 to 24 V (11 to 26,4 V) DC
Compatible measuring units	Measuring units supported by the main and hub units	Power consumption	4W
Main functions	Measured data monitoring, system monitoring, setting monitoring	Operating temp + humidity range	0 to +40°C (no condensation)
Communication protocol	Specific protocol on TCP/IP	Storage temp. + humidity range	-10 to +60°C (20 bis 90% RH)
Screen display	480x272 pixels, 4,3-inch TFT LCD with back light	Mass	Approx. 500 g

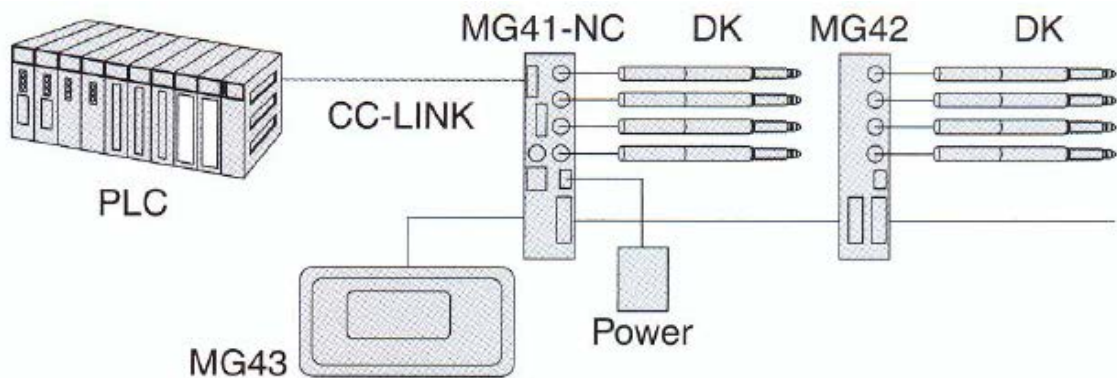
SYSTEM STRUCTURE



Ethernet

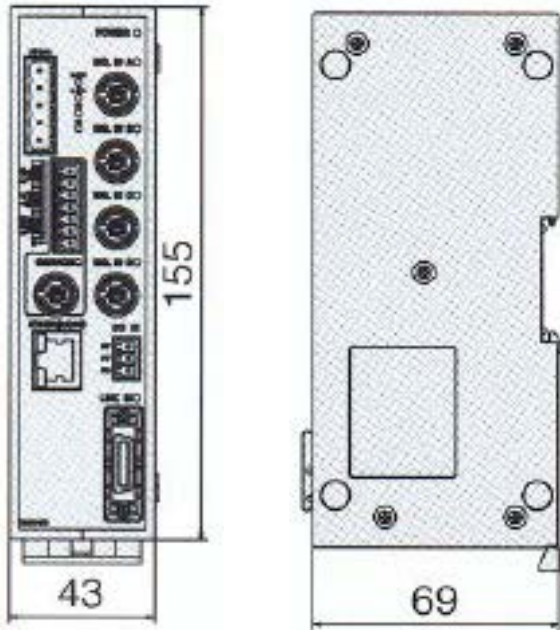


CC-Link

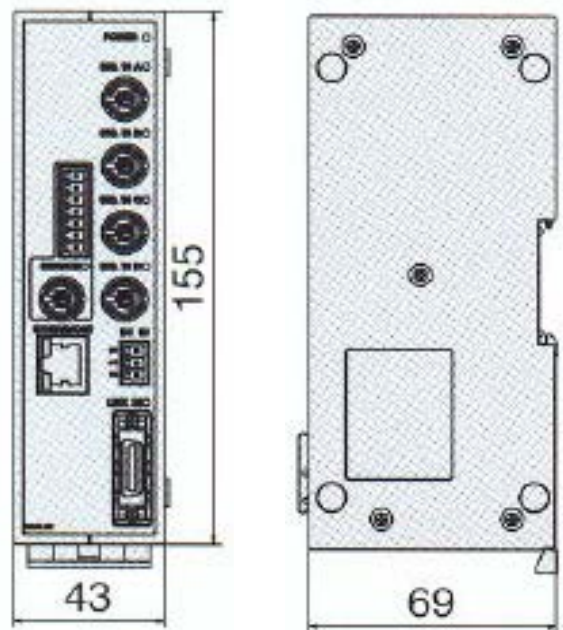


DIMENSIONS

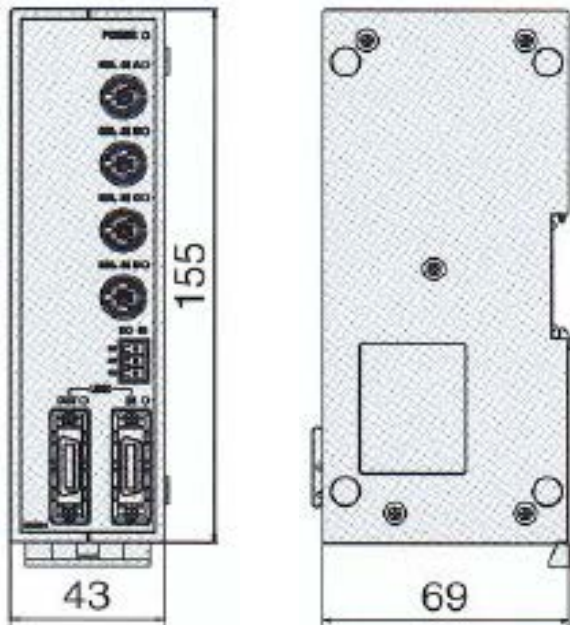
MG41-NC: Main unit (for CC-Link)



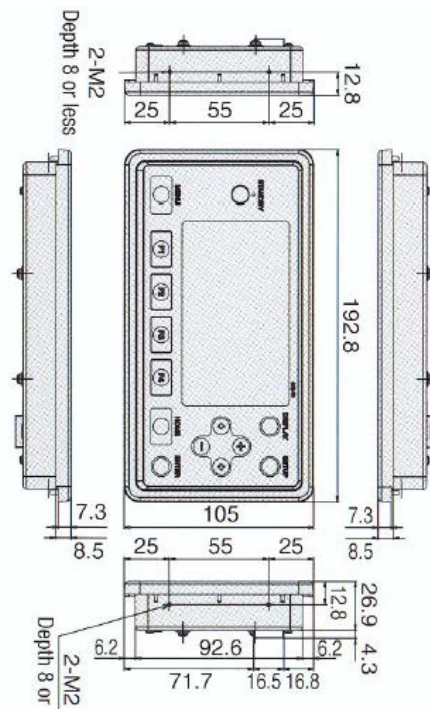
MG41-NE: Main unit (for Ethernet)



MG42-4: Hub unit



MG43: Display unit



CONNECTING THE UNITS

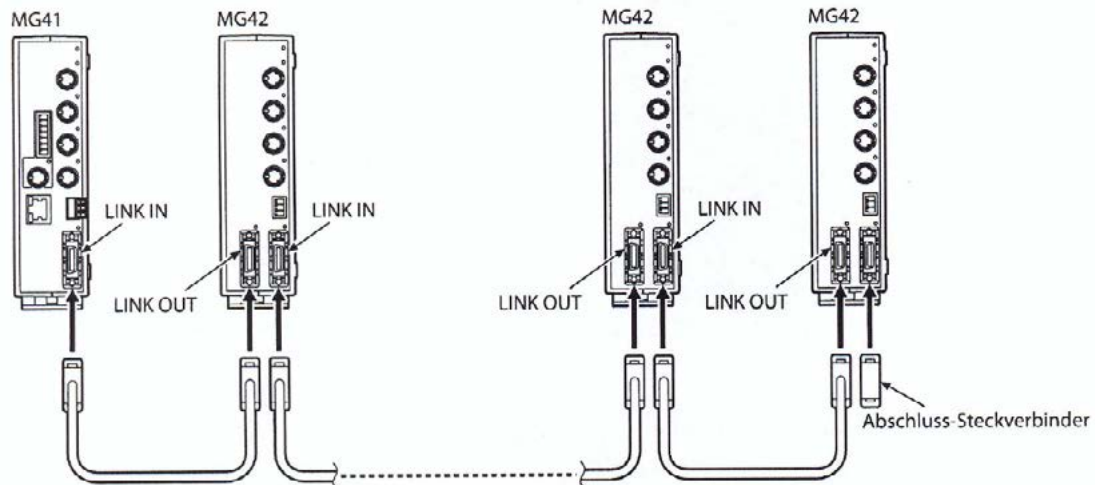
Connection by link cable MZ:

If the MG42 hub unit is connected by a link cable, up to 100 axes of measuring units can be connected.

Connect the link cable MZ (sold separately) to the link connector.

If the MG42 hub unit will not be connected by a link cable, connect the terminal connector (supplied) to the link connector (LINK IN).

If the MG42 hub unit is connected by a link cable, connect the terminal connector to the link connector (LINK OUT) of the MG42 hub unit at the end.

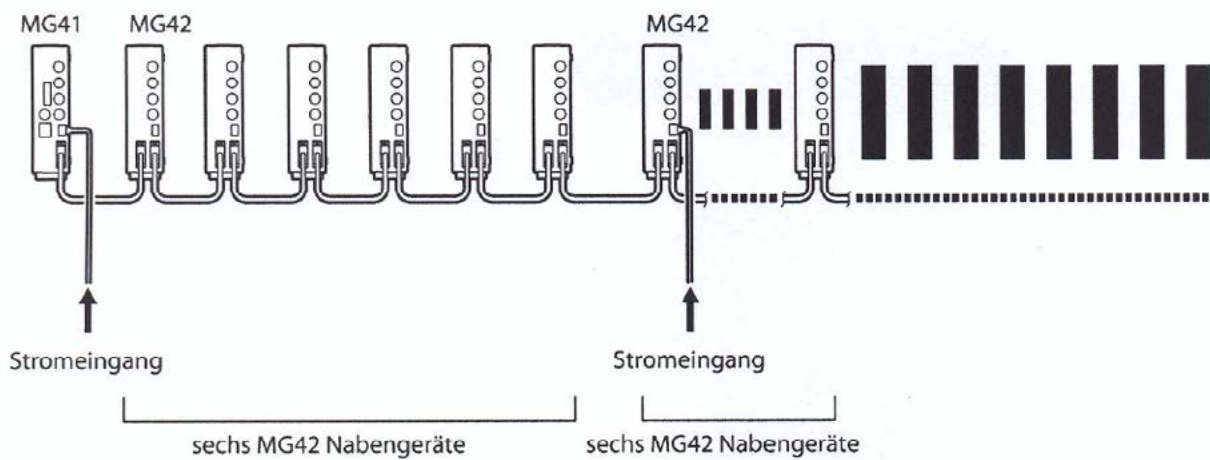


Note: Do not remove the link cable while the power is on. Disconnecting the cable will cause a communication error and the system will have to be restarted.

Connection the MG42 Hub Unit Power Connector:

Power can be supplied to a maximum of six MG42 hub units from the power supply connected to the MG41 main unit.

If seven or more MG42 hub units are connected, connect a power connector for every six MG42 hub units.



ORDER CODE MAGNESCALE MG MODULES

MG41-NE	Main unit Ethernet interface
MG41-NC	Main unit cc-Link interface
MG42-4	Hub unit
MG43	Display unit

ORDER CODE CABLES

Order Code	Function	Description
MZ41-R5	To interconnect the modules: MG41-MG42 or MG42-MG42	Link cable 0.5 m
MZ41-01	To interconnect the modules: MG41-MG42 or MG42-MG42	Link cable 1.0 m
MZ41-02	To interconnect the modules: MG41-MG42 or MG42-MG42	Link cable 2.0 m
MZ41-05	To interconnect the modules: MG41-MG42 or MG42-MG42	Link cable 5.0 m
MZ41-10	To interconnect the modules: MG41-MG42 or MG42-MG42	Link cable 10.0 m
CKT12	To extend the connection MG Module to digital gauge	High flex extension cable 1 m
CKT13	To extend the connection MG Module to digital gauge	High flex extension cable 3 m
CKT14	To extend the connection MG Module to digital gauge	High flex extension cable 5 m
CKT15	To extend the connection MG Module to digital gauge	High flex extension cable 10 m
CKT16	To extend the connection MG Module to digital gauge	High flex extension cable 15 m

Subject to change without prior notice.