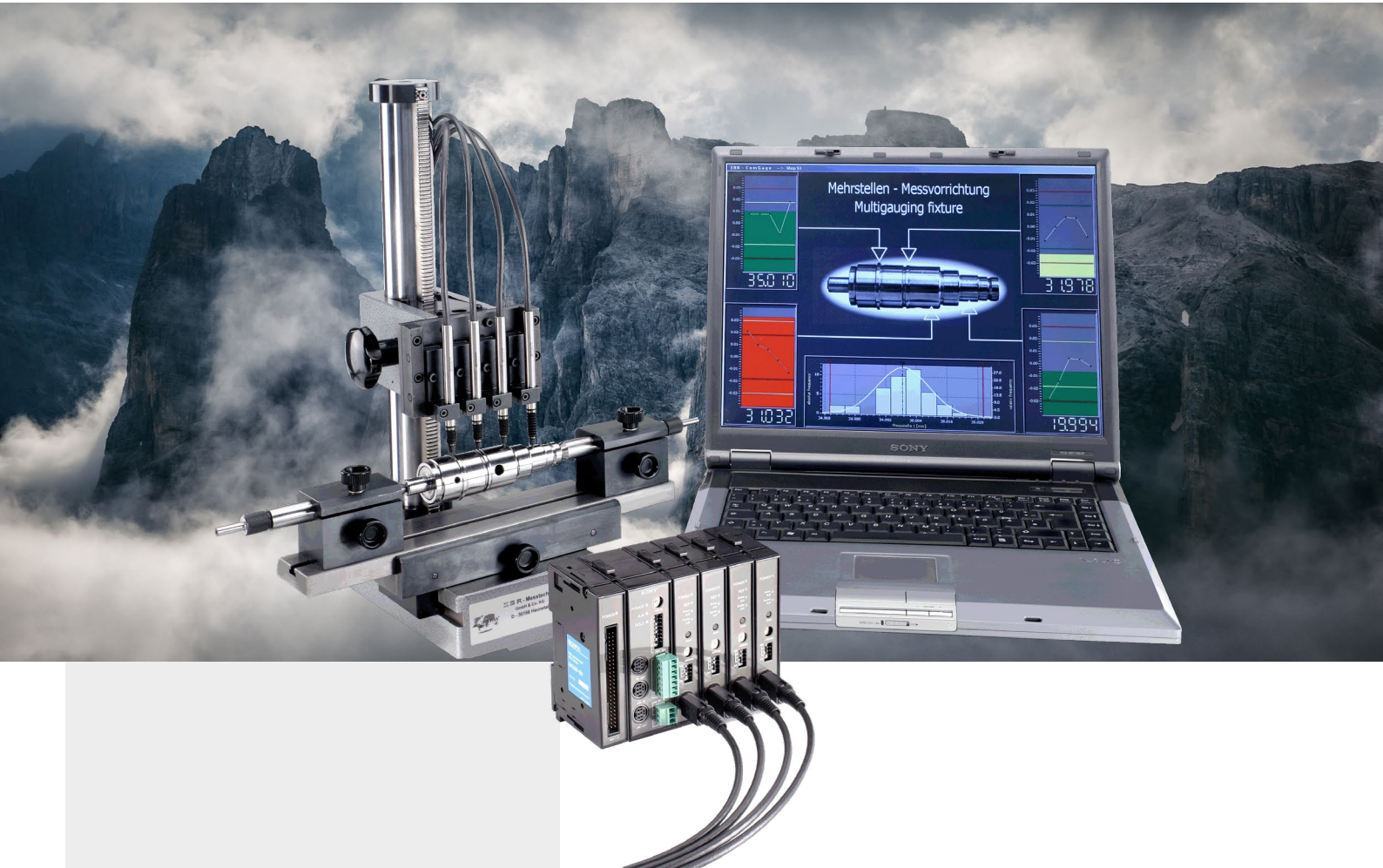


# MAGNESCALE

Flexible digital gauge system for multi point measuring



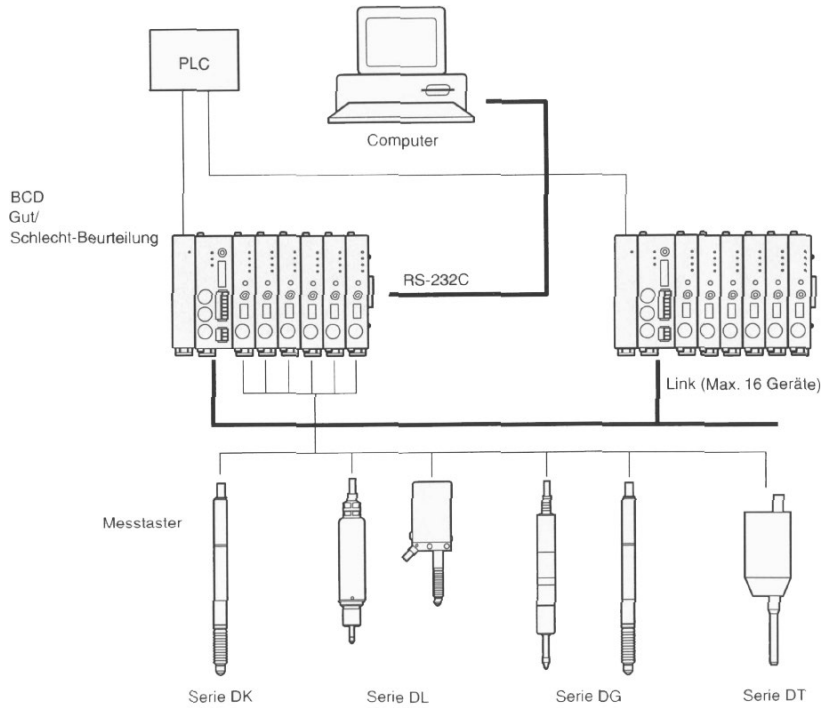
## MG10A/20A/30 Series

Key-Features:

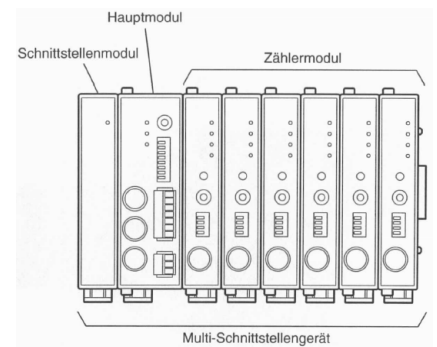
- Modular configuration: 1 main module MG10A + up to 16 counter modules MG20A
- Link connection enables connection of up to 4 MG10A
- Counter modules for digital gauge series DK, DT, DG
- Supports the input resolutions: 0.1, 0.5, 1, 5, 10  $\mu\text{m}$
- Equipped with RS-232C as standard
- Module MG30 enables performance of BCD output
- Operating voltage: 12 - 24 VDC
- DIN rail mounting

**Content:**

# MAGNESCALE MG SERIES SYSTEM STRUCTURE

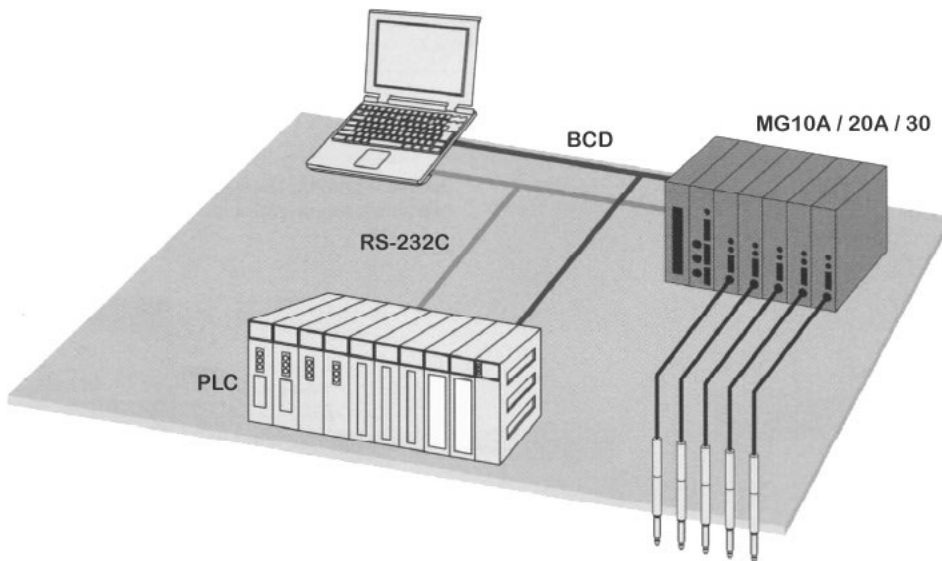


Product	Model	Remarks
Main module	MG10A-P1 MG10A-P2	Optocoupler-insulated open collector output (current sink type) Optocoupler-insulated output (source output)
Counter module	MG20A-DK MG20A-DG MG20A-DT	For DK series For DG**B, DL**B/BR series For DT series
I/F module, BDC module	MG30-B1 MG30-B2	Optocoupler-insulated open collector output (current sink type) Optocoupler-insulated output (source output)
RS232C cable	DZ252	For connecting MG10A with RS-232C port on external device
Link cable	LZ61	Used when linking a multiple number of units
Extension cable	CE08-**	Used when extending the link cable



## Equipped with the RS-232C interface as standard

This modular measurement system is applicable to multipoint measurements of digital gauges or system connection flexibly. The MG10A Series multi-interface unit realizes multipoint measurements, data transfer to a computer, integrated data progressing, and wire saving and improves the measurement efficiency of production lines.



## TECHNICAL DATA MODULE MG10A, MG20A, MG30

Model		MG10A-P1	MG10A-P2
Power source	Supply voltage	12-24 VDC (11-26.4 VDC) min. startup time: 100 ms or less	
	Power consumption	2.0 W + total power consumption for connected modules*1	
	Inrush current (10 ms)	10 A or less (when maximum number of modules are connected)	
	Power supply protection	Fuse (5 A fuse is built in)	
Communication	Communication I/F	RS-232C (EIA-232C or equivalent)	
	Baud rate setting	2400 / 9600 / 19200 / 38400 bps (set with DIP switch)	
	Data length	7 / 8 bit (set with DIP switch)	
	Stop bit	1 / 2 bit (set with DIP switch)	
	Parity	none / ODD / EVEN (set with DIP switch)	
	Delimiter	CR / CR+LF (set with DIP switch)	
Linkage function	Maximum number of linkages	16 (total of counter modules: 64)	
	Maximum length of linking cable	10 m	
I / O	Input format	source input (+COM) Optocoupler insulation, external power: 5 - 24 VDC	sink input (-COM)
	Output format	Open collector output sink type (-COM) Optocoupler insulation, external power: 5 - 24 VDC	source type (+COM)
	Input signal	reset, pause, start, latching, and data out trigger to whole channels	
	Output signal	integrated alarm	
Connectable modules	Counter modules	MG20A-DK, MG20A-DG and MG-20A-DT (available for mixed use, up to 16 modules)*1	
	Interface modules	MG30-B1, MG30-B2	

\*1: Total power of modules connected to MG10A should not be over 54 W (12 VDC Input) or 108 W (24 VDC Input).

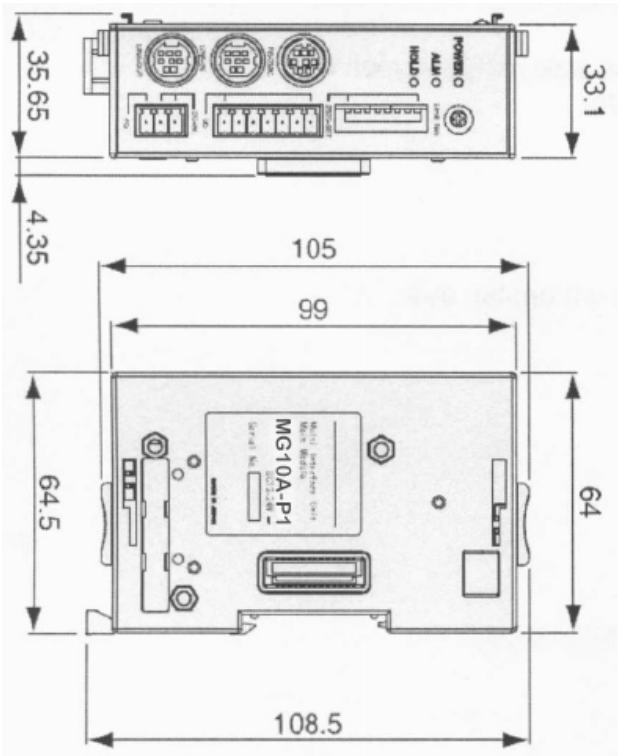
Model		MG20A-DK	MG20A-DG	MG20A-DT
Power consumption		1 W + power consumption for connected gauge	1.4 W (connected to DG-B) / 0.5 W (connected to DL-B)	0.8 W
Measuring unit input	Corresponding gauge	DK series (A/B quadrature input) 10 / 5 / 1 / 0.5 / 0.1 μm	DG**B series, DL**B/DL**BR series 10 / 5 / 0.5 μm	DT series 5 μm (DT12/32) 1 μm (DT512)
	Allowable resolution setting <sup>2</sup>	set with DIP switch		
	Maximum response speed	Subject to the specification of the connected gauge		
	Reference point <sup>3</sup>	REF-LED (reference point loaded) shows on the display after the reference point is detected. Set "0" or preset value on the counter when the reference point is detected.		
Others	Alarm	S-ALM LED activates by excess speed/acceleration of measuring unit. C-ALM LED activates by excess speed of the internal circuit of counter. Alarm display is cancelled by reset command from MG10A or with the reset button of main unit.		

\*2: Set the resolution value of the connected gauge. \*3: MG20A-DG works only connected to DL\*\*BR series

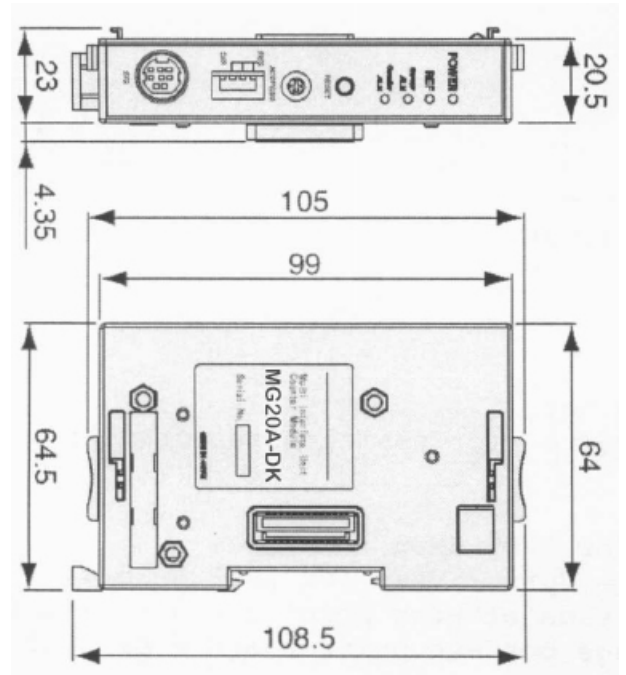
Model		MG30-B1	MG30-B2
Power consumption		1 W	
I/O	Input format	source type (+COM) Counterpart output circuit: current sink input Optocoupler insulation, external power: 5 - 24 VDC	Current sink input (-COM), Counterpart output circuit: source type
	Output format	Current sink input (-COM), Counterpart output circuit: source type Optocoupler insulation, external power: 5 - 24 VDC	source type (+COM) Counterpart output circuit: current sink input
	Input signal	DRQ / channel address / measuring mode shifting / comparator shifting / reset / start / posing / reference point loaded	
	Output signal	BCD data (6 digits) / READY / code / GO/NO GO output / alarm / reference point loaded	
Output setting		timer (1 to 128 ms) / OUT / OR / polarity (set with internal DIP switch)	
All models	Operating temperature	0 to +50 °C (No condensation)	
	Storage temperature	-10 to +60 °C (20~90% RH)	

TECHNICAL DRAWINGS

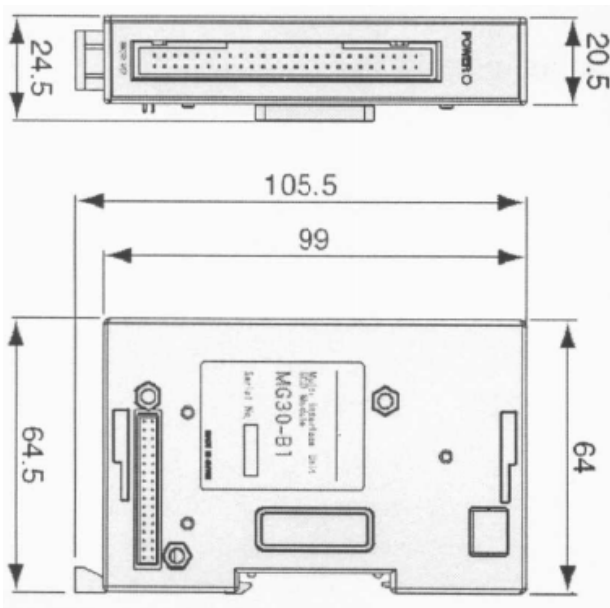
**MG10A-P1/P2**



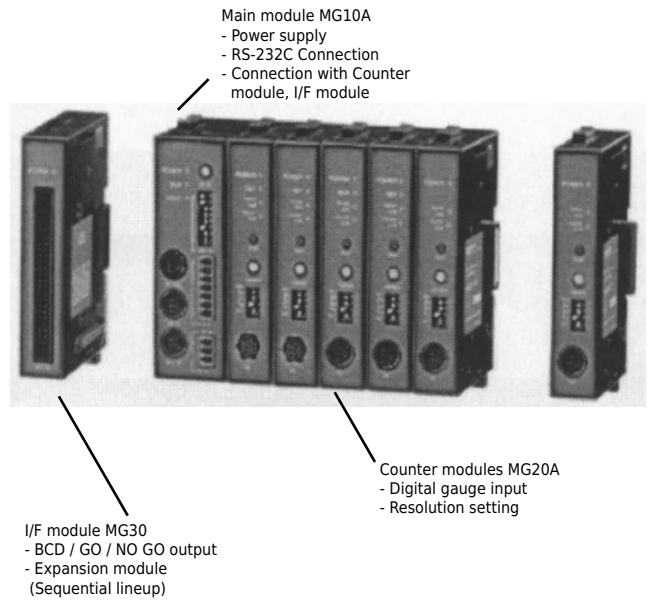
**MG20A-DK/DG/DT**



**MG30-B1/B2**



**Composition Multi-Interface unit**



## ORDER CODE MAGNESCALE MG MODULES

<b>MG10A-P1</b>	Main module RS232 (Source input, +COM)
<b>MG10A-P2</b>	Main module RS232 (Sink input, -COM)
<b>MG20A-DK</b>	Counter module for DK series
<b>MG20A-DG</b>	Counter module for DG series
<b>MG20A-DT</b>	Counter module for DT series
<b>MG30-B1</b>	Interface module, BCD output (Source input, +COM)
<b>MG30-B2</b>	Interface module, BCD output (Sink input, -COM)

## ORDER CODE CABLES

<b>Order Code</b>	<b>Function</b>	<b>Description</b>
DZ252	For connecting MG10A with RS232C port on external device	RS232 cable, Sub-D connector - 9 pin male
DZ253A	For connecting MG10A with RS232C port on external device	RS232 cable, Sub-D connector - 25 pin male
LZ61	Used when linking a multiple number of units	Link cable between MG10A modules (1 m)
CE08-1	Used when extending the link cable	1 m, extension cable (not for connection to moving parts)
CE08-3	Used when extending the link cable	3 m, extension cable (not for connection to moving parts)
CE08-5	Used when extending the link cable	5 m, extension cable (not for connection to moving parts)
CE08-10	Used when extending the link cable	10 m, extension cable (not for connection to moving parts)
CE08-15	Used when extending the link cable	15 m, extension cable (not for connection to moving parts)
CK-T12	Used when extending the link cable	1 m, high flex extension cable (for connection to moving parts)
CK-T13	Used when extending the link cable	3 m, high flex extension cable (for connection to moving parts)
CK-T14	Used when extending the link cable	5 m, high flex extension cable (for connection to moving parts)
CK-T15	Used when extending the link cable	10 m, high flex extension cable (for connection to moving parts)
CK-T16	Used when extending the link cable	15 m, high flex extension cable (for connection to moving parts)





Subject to change without prior notice.

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