

# MG

# MG10/20/30 SERIES

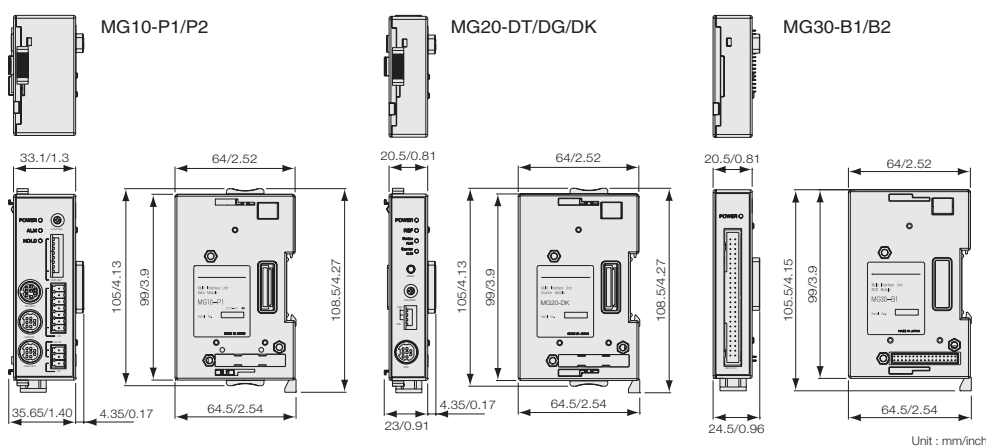
Flexible digital gauge system for multi-point measuring .

- Up to 64 connectable gauges
- Input resolutions : 0.1µm, 0.5µm, 1µm, 5µm, and 10µm.
- Compatible with RS-232C, BCD
- Operating voltage : 12-24VDC
- DIN rail mounting (35mm)

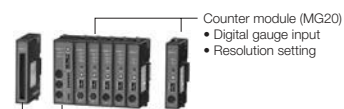


## Interface unit

### System structure

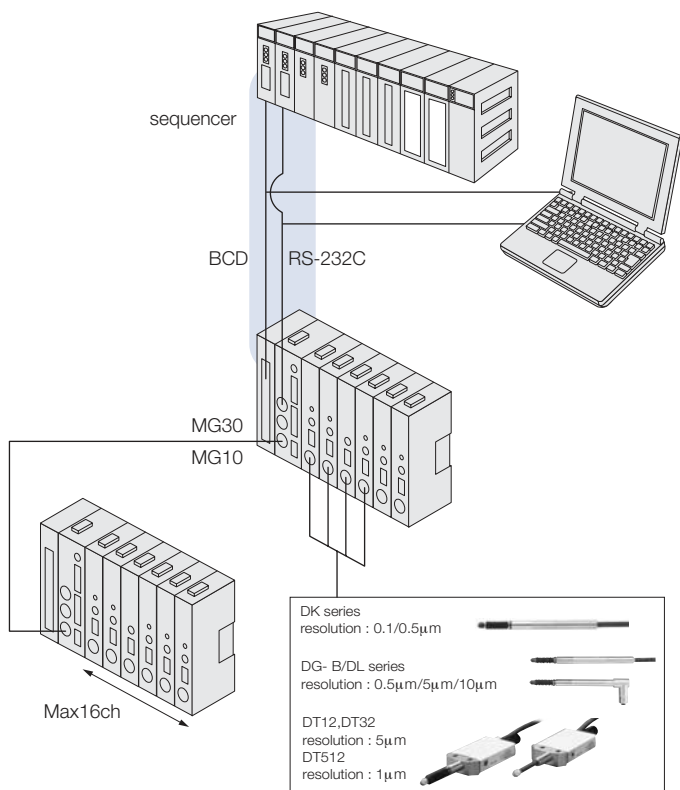


"MG" Multi Interface unit operates with a variety of modules.



- MG10-P1 : sink type output (-com)
- MG10-P2 : source type output (+com)
- MG20-DK : DK series gauges
- MG20-DG : DG\*\*B and DL\*\*B/BR series gauges
- MG20-DT : DT series gauges
- MG30-B1 : BCD sink type output (-com)
- MG30-B2 : BCD source type output (+com)

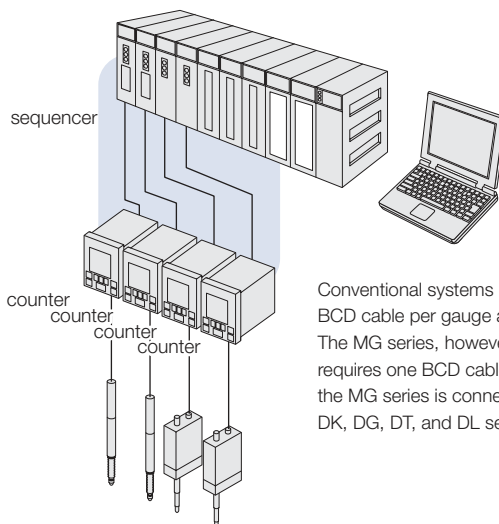
### MG series System structures



The "MG" series is a modular gauging system that allows flexible, multi-point measuring, with built-in software for today's most popular output protocols.

The "MG" system can be easily mounted to a standard DIN rail (35mm), requires minimal wiring, and can be easily expanded for future upgrades.

### Conventional system structure



Conventional systems require one BCD cable per gauge axis. The MG series, however, only requires one BCD cable. In addition, the MG series is connectable to our DK, DG, DT, and DL series gauges.

| Main module         |                                 |   |                    |
|---------------------|---------------------------------|---|--------------------|
| Model name          | MG10-P1                         | MG10-P2   |                    |
| Power source        | Supply voltage                  | DC12-24V(11-26.4V)Min. startup time: 100ms or less                          |                    |
|                     | Power consumption               | 2.0W + total power consumption for connected modules*1                      |                    |
|                     | Inrush current (10ms)           | 10A or less (when maximum number of modules are connected)                  |                    |
|                     | Power supply protection         | Fuse (5A 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)                                     |                    |
| Linkage function    | Delimiter                       | CR / CR+LF (set with DIP switch)  |                    |
|                     | Maximum number of linkages      | 16 (total of counter modules: 64)   |                    |
|                     | Maximum length of linking cable | 10m   |                    |
| I/O                 | Input format                    | source input (+COM)   | sink input (-COM)  |
|                     |                                 | Photo coupler insulation, external power: DC5 - 24V                         |                    |
|                     | Output format                   | sink type (-COM)  | source type (+COM) |
|                     |                                 | Photo coupler insulation, external power: DC5 - 24V                         |                    |
|                     | Input signal                    | reset, pause, start, latching, and data out trigger to whole channels       |                    |
| Output signal       | integrated alarm                |   |                    |
| Connectable modules | Counter modules                 | MG20-DK, MG20-DG and MG-20DT (available for mixed use, up to 16 modules) *1 |                    |
|                     | Interface modules               | MG30-B1, MG30-B2  |                    |

\*1: Total power of modules connected to MG10 should not be over 54W (12VDC Input) or 108 W (24VDC Input).

| Counter module       |  |   |                           |
|----------------------|--|---|---------------------------|
| Model name           | MG20-DK                                    | MG20-DG   | MG20-DT                   |
| Power consumption    | 1W + power consumption for connected gauge | 1.4W (connected to DG-B) / 0.5W (connected to DL-B)   | 0.8W                      |
| Measuring unit input | Corresponding gauge                        | DK series (A/B quadrature input)  | DT series                 |
|                      | Allowable resolution setting *2            | 10 / 5 / 1 / 0.5 / 0.1μm  | 5μm (DT12/32) 1μm (DT512) |
|                      | Maximum response speed                     | Subject to the specification of the connected gauge   |                           |
|                      | Reference point *3                         | 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 MG10 or with the reset button of main unit.  |                           |

\*2: Set the resolution value of the connected gauge. \*3: MG20-DG work only connect to DL\*\*BR series

| Interface module  |   |   |                    |
|-------------------|---|---|--------------------|
| Model name        | MG30-B1   | MG30-B2   |                    |
| Power consumption | 1w  |   |                    |
| I/O               | Input format  | source input (+com)                                 | sink input (-com)  |
|                   |   | Photo coupler insulation, external power: DC5 - 24V |                    |
|                   | Output format   | sink type (-com)                                    | source type (+com) |
|                   |   | Photo coupler insulation, external power: DC5 - 24V |                    |
| 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 (1-128ms) / OUT / OR / polarity (set with internal DIP switch)  |   |                    |
| All models        | Operating temperature   | 0~+50°C (No condensation)                           |                    |
|                   | Storage temperature   | -10~+60°C (20-90%RH)                                |                    |