



A selection of high-speed counter modules and pulse counter module for accuracy intensive, high resolution control applications is available.

Pulse input modules capable of high-speed counting

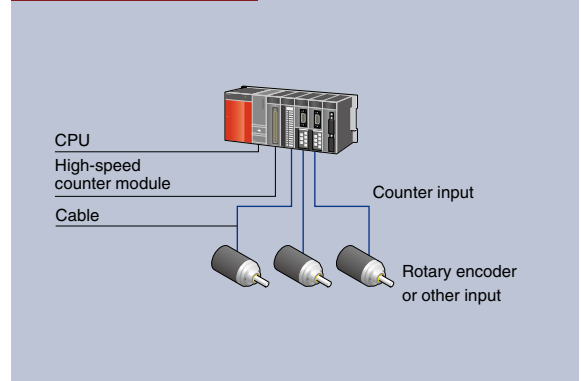
● High-speed counter module

- Standard type.....**QD62, QD62E, QD62D**
- Multi-channel high-speed counter module **QD63P6**
- 4 Mpps compatible high-speed counter module **QD64D2**
- Multi-function counter/timer module **QD65PD2**

Inputs may be connected to a variety of devices for positioning control, precision measurement, etc. The maximum counting speed may be adjusted via parameter (excluding QD64D2) for more reliable counting at lower frequencies.

- » External coincidence output (QD64D2 includes 2 per channel): Select coincidence output, continuous comparison (QD64D2 only), or the coincidence detection interrupt function for flexible high-speed external device control.
- » Many functions are available to satisfy application requirements including the coincidence output test function (QD64D2 only), latch counter function (excluding QD63P6), and preset function.
- » Calculate pulses at speeds up to 8 Mpps (4 multiples of 2 phases). Perform precise position tracking using a high-resolution encoder for demanding applications such as semiconductor and LCD manufacturing. (QD65PD2)

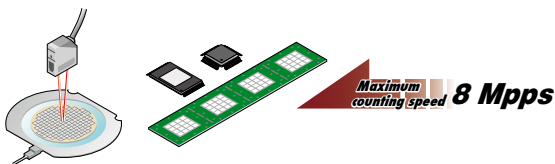
System configuration example



		QD62 (DC input sinking output type)	QD62E (DC input sourcing output type)	QD62D (differential input sinking output type)	QD63P6 (DC input)	QD64D2 (DC input, sink output type)	QD65PD2 (DC/Differential input, external output terminals)	
Number of channels		2 channels			6 channels	2 channels	2 channels	
Count input signal	Phase	1-phase input, 2-phase input, CW/CCW						
	Signal level	5/12/24 V DC 2...5 mA	EIA Standard RS-422-A Differential line driver level (AM26LS31 [manufactured by Texas Instruments] or equivalent)		5 V DC 6.4...11.5 mA	EIA Standard RS-422-A, differential line driver level (AM26LS31 [manufactured by Texas Instruments Incorporated] or equivalent)	[Differential input] EIA Standards RS-422-A, differential line driver level (AM26LS31 [manufactured by Texas Instruments] or equivalent) [DC input] 5/12/24 V DC, 7...10 mA	
	Pulse input	1-phase pulse input (x1, x2), CW/CCW, 2-phase (x1, x2, x4)						
Counting speed (max.)		200 kpps		500 kpps	200 kpps	4 Mpps	[Differential input].....8 Mpps [DC input].....200 kpps	
Function		·Linear counter function ·Ring counter function ·Coincidence output function ·Preset function		·Latch counter function ·Count disable function ·Sampling counter function ·Periodic pulse counter function	·Linear counter function ·Ring counter function ·Coincidence detection function ·Preset function ·Periodic pulse counter function	·Linear counter function ·Ring counter function ·Coincidence detection function ·Cam switch function ·Continuous comparison function ·Preset function ·Latch counter function	·Linear counter function ·Ring counter function ·Coincidence output function ·Cam switch function ·Preset/replace function ·Latch counter function ·Count disable function ·Sampling counter function ·Periodic pulse counter function ·Count disable/preset/replace function	·Latch counter/preset/replace function ·Internal clock function ·Frequency measurement function ·Rotation speed measurement function ·Pulse measurement function ·PWM output function ·General input function ·General output function

Multi-function counter/timer module (QD65PD2)

- **Perform extremely accurate position tracking!**
Counting speed up to 8 Mpps (4 multiples of 2 phases)



- **Multiple functions designed for ease of use!**

Pulse measurement function
With a resolution of 100 ns, it is possible to perform highly accurate pulse measurement.

PWM output function
Precisely control PWM output up to 200 kHz. With a resolution of 0.1 μs, superfine control of the duty cycle is possible.

Cam switch function
Configure up to 16 cam settings and use up to 8 dedicated outputs. The cam switch function enables highly accurate timing control.

- **Perform sophisticated control using coincidence detection!**

The coincidence output function allows complex applications to be supported. Depending on the situation, either the cam switch function or the coincidence output function can be used.

● Channel isolated pulse input module..... **QD60P8-G**

This module is appropriate for the measurement of input pulse counts (related to speed, revolution, instantaneous flow rate, etc.) and the measurement of quantities (length, cumulative flow, and so forth). The QD60P8-G operates on a 10 ms control cycle, thus the minimum value refresh time is 10 ms. The count cycle setting can be changed to the desired time for cumulative count values and moving average pulse counts (sampling pulse counts).

		QD60P8-G
Number of channels		8 channels
Count input signal	Phase	1-phase input
	Signal level	5 V DC/12...24 V DC, ≥ 4 mA
	Pulse input	1-phase pulse input
Counting speed (max.)		30 k/10 k/1 k/100/50/10/1/0.1 pps