Overview

TQ-5200 can convert the detected pulse output to digital torque value or analog voltage output in used with the TQ-2000 series. Conversion to analog outut is done at every pulse cycle in periodic calculation method. The remote I/O, communication and torque interlocking function are provided as standard which are useful for building a measurement system.

Feature

① Compact size (210 mm in width x 44 mm in height x 200 mm in depth)
② Use of fluorescent display tube allows easy reading of measurement values and setup menus.
③ Isolated analog output enables easy connection with a control system, a recorder, data processing equipment, and so on.
④ External device interface RS-232C provided as standard allows easy system building.
⑤ Fast value judgment every one period by the Interlocking function. Three torque interlocking channels are provided. Two channels can be arbitrarily set from 0 to ±capacity, one channel is fixed at 110 % of capacity.

System Configuration

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### Specification

#### 【Input section】
- **Torque**
  - Input frequency range: 1 kHz to 25 kHz
  - Input signal: Line driver differential input
  - Signal detected by TQ series (made by Ono Sokki)
- **Rotation speed**
  - Input frequency range: 1 Hz to 100 kHz
  - Input signal: Signal detected by MP-981, MP-9820 (made by Ono Sokki)

#### 【Display section】
- Display: Fluorescent display tube
- Display item: Torque or torque & rotation speed
- Display digit: 5-digit
- Display update time: 1 s (average value)
- Display unit:
  - Torque: Nm, kNm
  - Rotation speed: r/min

#### 【Calculation section】
- Conversion method: Frequency conversion method
- Conversion time: 1 cycle + 5 μs
- Moving average: OFF, 2 to 32
- Rotation detection signal: P/R 60, 120, 180, 240, 360, 720
  - Rotation speed: 10 points each for CW, CCW
- Compensation(N-0)

#### 【Analog output section】
- Output item: Torque
- Output signal: 0 to ±10 V (isolation)
- Applicable connector: C02 (BNC)
- Output response time: Same as conversion time in calculation section
- Lowpass filter: 4th order Butterworth type
- Appropriate load: OFF, 1 kHz, 500 Hz, 100 Hz, 10 Hz, 1 Hz
- 100 kΩ or more
- Measurement accuracy:
  - When used with a detector, ±0.1 %/F.S.
  - ±0.01 %/F.S./°C (alone)
- Temperature drift: ±0.01 %/F.S./°C
- Output for calibration: Zero, full

#### 【Comparator function】
- Setup item: Torque
- Number of channels: 3ch
- Setting contents: Arbitrary setting 2ch, 110 % fixed 1ch
- Output format: Non-voltage contact output
- Applicable connector: R03-PB8M (TAJIMI ELECTRICS CO., LTD)

#### 【Pulse output section】
- Output item: Torque, rotation speed
- Output format: TTL C02 (BNC)
- Applicable connector: CW/CCW selectable
- Measurement ready signal: Interlock 3ch
- Shared with the comparator function
- Baud rate: 9600 bps
- Communication: Read out of setting, condition and display value / change of setting
  - AX-5022 (2 m: made by Ono Sokki)

#### 【Remote function】
- Input signal: CW/CCW selectable, auto zero
- Output signal: Measurement ready signal
- Interlock 3ch
- Applicable connector: Shared with the comparator function

#### 【RS-232C】
- Baud rate: 9600 bps
- Communication: Read out of setting, operation / change of setting
- Applicable cable: AX-5022 (2 m: made by Ono Sokki)

#### 【General specification】
- Power supply voltage: DC18 to 30 V
- Power consumption: approx. 20 VA
- Operating temperature range: 0 to 50 °C
- Outer dimensions: 210(W)×44(H)×200(D) mm
- Weight: approx. 1 kg
- Accessory: Connector for power supply
- Connector for remote Instruction manual

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*Analog voltage output of rotation speed can be obtained by connecting a rotation speed pulse output to FV-1400 (made by Ono Sokki).*