Before using this product, check each of the following:

1. PRODUCT CHECK

   Before using this product, check each of the following:

   ① Model code
   ② Check that all of the accessories delivered are complete.
   ③ Check that there are no scratch or breakage in external appearance (case, terminal, etc).

COM-K - □

① Loader communication cable (Optional)
   N: None
   W: BV-01 cable (1.5 m) for loader communication
      [For square shaped loader port]
   W: BV-03 cable (1.5 m) for loader communication
      [For round shaped loader port]

Accessories

USB cable (1 m) .................................................................1
Instruction Manual (IMR01Z01-E9) ....................................1

② Display lamp

 Loader power * Communication state Lamp state
Supply the power Standby/during data receive A orange lamp turns on
During data send A orange lamp is flashing
Power not supplied Standby/during data receive A green lamp turns on
During data send A green lamp is flashing

* The power is supplied from the loader communication connector of the controller (RKC product).

3. MOUNTING

   Mounting Cautions

   (1) Use this instrument within the following ambient temperature and ambient humidity.
   - Allowable ambient temperature: -10 to +50 °C
   - Allowable ambient humidity: 5 to 95 % RH
   (Absolute humidity: MAX. W. C 29.3 g/m2 dry air at 101.3 kPa)
   (2) Avoid the following when selecting the mounting location:
   - Rapid changes in ambient temperature, which may cause condensation.
   - Corrosive or inflammable gases.
   - Direct vibration or shock to the mainframe.
   - Water, oil, chemicals, vapor or steam splashes.
   - Excessive induction noise, static electricity, magnetic fields or noise.
   - Direct air flow from an air conditioner.
   - Exposure to direct sunlight.
   - Excessive heat accumulation.
   (3) Mounting consideration
   - Install the module 200 mm away from the main power line.
   - Ensure at least 50 mm space on top and bottom of the control unit for maintenance and environmental reasons.

   Dimensions

   (Unit: mm)

   DIN rail Mounting

   1. Pull down the mounting bracket at the bottom of the module (A). Attach the hooks on the top of the module to the DIN rail and push the lower section into place on the DIN rail (B).
   2. Slide the mounting bracket up to secure the module to the DIN rail.

   Panel Mounting

   Mount COM-K directly on the panel with screws which are inserted in the mounting holes of the top and bottom mounting brackets.

   Recommended tightening torque: 0.3 N.m (3 kgf.cm)

   The customer needs to provide the M3 size screws. Select the screw length that matches the mounting panel.

   Mounting dimensions

   (Unit: mm)
4. WIRING

To prevent electric shock or instrument failure, turn off the power before connecting or disconnecting the instrument and peripheral equipment.

### Wiring Cautions
- To avoid noise induction, keep communication signal wire away from instrument power line, load lines and power lines of other electric equipment.
- If the personal computer is easily affected by noise, use the ferrite core in the USB cable. For an installation position of a ferrite core, please refer to the following figure.

![Ferrite core](Recommended ferrite core: ZCAT2032-0930 (TDK Corporation))

### Method to connect

1. **For loader communication**

   - Connect to the USB port of a personal computer.
   - Connect to the COM-K and the shielded twisted pair wire.
   - Connect to the COM-K and the shielded twisted pair wire.

   ![Connection diagram](RS-485/RS-422A connection)

   - **Controller** (Example: FB400/FB900)
   - **COM-K**
   - **Terminal resistors** (Example: 120 Ω 1/2 W)

   If communication errors occur frequently due to the operation environment or the communication distance, connect termination resistors.

2. **For RS-485/RS-422A communication**

   - Connect to the RS-485/RS-422A communication connector.
   - Connect to the communication terminals of the controller (Example: FB400/FB900)

   ![Connection diagram](RS-485/RS-422A connection)

   - **Controller** (Example: FB400/FB900)
   - **COM-K**
   - **Terminal resistors** (Example: 120 Ω 1/2 W)

   * The termination resistor is built into the COM-K.

### Wiring Cautions

- **Attention in connector wiring**
  - The lead wires use the stranded wire.
  - Use the stranded wire from size 0.25 to 0.5 mm² (AWG 26-20).
  - Stripping length is as follows.

  ![Stripping length](8 mm (Stripping length))

  - Connector type: FK-MC 0.5/5-ST-2.5 (Products by Phoenix contact Ltd.)

### Installation of USB device driver

Installs an USB device driver in a personal computer before use.
1. Connect COM-K to USB port of a personal computer.
2. Install an USB device driver according to an on screen instruction.

### 5. SPECIFICATIONS

#### USB function

- **Interface:** Based on USB Ver. 2.0
- **Communication speed:** Full speed (12 Mbps)
- **Connection:** Connected by universal USB cable (Mini-B connector)
- **Power source method:** Bus power (The power is supplied from the USB port on the personal computer side)

#### Communication function

- **Interface:** Based on RS-485, EIA standard
  - Based on RS-422A, EIA standard
- **Connection method:** 2-wire system, half-duplex multi-drop connection (RS-485)
  - half-duplex multi-drop connection (RS-422A)
- **Synchronous method:** Half-duplex start-stop synchronous type
- **Communication speed:** 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps
- **Data bit configuration:** Start bit: 1
  - Data bit: 7 or 8
  - Parity bit: Without, Odd or Even
  - Stop bit: 1 or 2
- **Protocol:** Protocol depends on application of the personal computer side

#### General specifications

- **Power supply voltage:** 5 V DC ± 5 % (Supplied by USB bus cable)
- **Current consumption:** 150 mA max. (Loader communication)
- **Maximum 31 controllers (RS-485, RS-422A)**
- **Termination resistor:** Built-in termination resistor (120 Ω)

#### Weight

- **Approx. 40 g**