2. PARTS DESCRIPTION

2.1 Mainframe

- Loadable connector
- Communication port
- Loader communication
- COM PORT
- PROFINET (connection 1)
- PROFINET (connection 2)
- PROFINET/RS-422A
- Communication port (modular connector) and communication connector
- Switch
- Address setting switch
- Indication lamp

2.2 Communication Module

- COM-ML
- SRZ unit
- DIP switch

2.3 Mounting

- Communication converter
- COM-ML

3. MOUNTING

3.1 Mounting Caution

- Mounting a sensor to prevent shock or impact, always turn off the power before mounting or removing the instrument.

4. WIRING

4.1 Wiring Precautions

- To avoid noise induction, keep communication signal wire away from instrument power line, load line and other electric equipment.
- If there is electrical noise in the vicinity of the instrument, it may affect operation. Use a noise filter or shielded power supply to reduce noise and prevent damage.

4.2 Terminal Configuration

- Supply the power to the only one of the modules or COM-ML. Power supply is applied to all the modules and the COM-ML.

4.3 Connection to PROFINET

- Use a PROFINET communication converter to connect to the PROFINET network.
**Loader communication**
Connect a USB communication converter between the personal computer and the COM-ML.

**Ethernet communication**
Connect to loader communication or USB communication converter COM-ML (COM. PORT)

**Connector**
- COM-ML (COM. PORT)
- USB cable (COM4Q accessory)
- LOADER modular connector
- Shielded twisted pair wire
- Communication speed: 4800 bps, 9600 bps, 19200 bps, 38400 bps
- Protocol: RKC communication (ANSI X3.28-1976 subcategories 2.5 and B1) or Modbus-RTU
- Power consumption (at maximum load): 120 mA max. (at 24 V DC)
- Installation environment conditions:
  - Indoors use, Altitude up to 2000 m
  - Temperature: -10 to 50 °C
  - Relative humidity: 5% to 95% (Absolute humidity: MAX W:23.9 g/m² dry air at 101.3 kPa)

**Host communication**
Interface:
- Based on RS-422A, EIA standard
- RS-485, EIA standard

Communication method:
- RS-422A: 4-wire system, half-duplex multi-drop connection
- RS-485: 2-wire system, half-duplex multi-drop connection

Synchronous method:
- Start/Stop synchronous type

**USB communication**
Connect the USB communication converter between the personal computer and the COM-ML.

**Daisy-chain connectable.**

**Connect to COM-ML**

**RS-485**

Up to 16 SRZ units can be connected to a host computer communication port. The termination resistor is built inside.

**Contact settings**
- The address setting switch
- The six-pin type modular connector

- Pin No. 3 Signal ground SG
- Pin No. 6 (R1) Signal ground SG
- Pin No. 1 Send/Receive data T/R (A)
- Pin No. 2 Send/Receive data T/R (B)
- Pin No. 4 Unused
- Pin No. 5 Unused
- Pin No. 7 Unused

**RS-422A**

The RS-232C/RS-422A converter is used for connection to the COM-ML.

**Contact settings**
- The address setting switch
- The six-pin type modular connector

- Pin No. 1 Send/Receive data T/R (A)
- Pin No. 2 Send/Receive data T/R (B)
- Pin No. 3 Signal ground SG
- Pin No. 4 Unused
- Pin No. 5 Unused
- Pin No. 6 Unused

**Address Settings**
- Set the address such that it is different to the other addresses on the same line.
- Otherwise, problems or malfunction may result.

**RS-232C**

The interface of host computer is RS-232C 5-wire connection.

**Contact settings**
- The address setting switch
- The six-pin type modular connector

- Pin No. 1 Send/Receive data T/R (A)
- Pin No. 2 Send/Receive data T/R (B)
- Pin No. 3 Signal ground SG
- Pin No. 4 Unused
- Pin No. 5 Unused
- Pin No. 6 Unused

**Manual setup of host communication**
- Connect according to the typical wiring as they are without using the wire.
- The factory setup values are valid of 4800 bps, 9600 bps, 19200 bps, 38400 bps.

**DIP Switch**

1. Host communication address setting switch
2. R: ON, T: ON 38400 bps
3. Communication protocol/Data bit configuration
4. Communication protocol/Data bit configuration
5. Communication protocol/Data bit configuration
6. DIP switch breakable/indicate
7. Communication protocol/Data bit configuration
8. Communication protocol/Data bit configuration

**Connection Example**
The Ethernet cable (LAN cable) which is marked red can be connected. The Ethernet cable (LAN cable) must be provided by the customer.

**System requirements**
- RS-232C/RS-422A converter
- RS-485, CD485/V manufactured by Data Link, Inc. or equivalent.

**Notice**
- When the interface of host computer is RS-232C (RS-232C or RS-422A) is connected to the COM-K2, the COM-ML must be connected to the COM-K2.
- When the interface of host computer is RS-485, the COM-ML must be connected to the COM-K2.

**Safety standard**
- UL: UL61010-1
- CAN/CSA-C22.2 No.61010-1
- Pollution Degree 2, Class II (Reinforced insulation)
- CE marking: LVD: EN61010-1
- EMC: EN61326-1

**EMC specifications**
- Cl: COM-K2 (RKC product)
- CD485, CD485/V manufactured by Data Link, Inc. or equivalent.
- When the communication protocol is set with the DIP switch, the data bit configuration is automatically set to "Data 8-bit, Without parity, Stop 1-bit." To change to another data bit configuration, set the configuration in host communication or loader communication.

**Mounting method**
- When you wish to set the communication speed protocol and data bit configuration in host communication or loader communication, first set DIP switch No. 5 to ON, then set the communication speed protocol and data bit configuration.