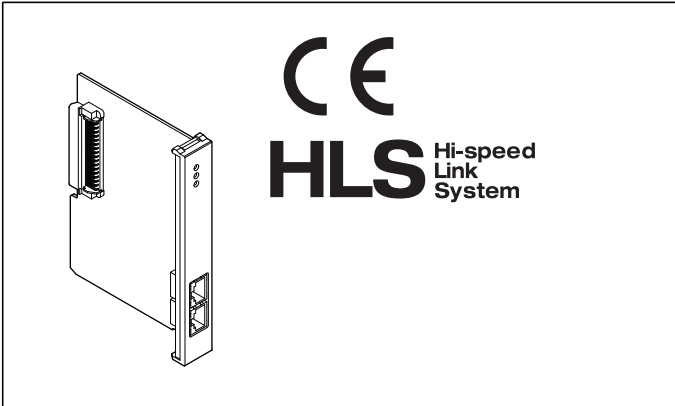


## Remote I/O MP Series

### HLS MASTER MODULE

(For MP2200/MP2300/MP3300 series use)



### MODEL: MPHLS-01

#### ORDERING INFORMATION

- Code number: MPHLS-01

#### I/O TYPE

01: HLS function module 1

#### FUNCTIONS & FEATURES

HLS Master Module is optional module for MP2200/MP2300/MP3300 series machine controllers made by YASKAWA Electric Corp. operating as master unit to connect analog I/O and discrete I/O with HLS(Hi-speed Link System).

HLS is the abbreviation for “Hi-speed Link System” of Step Technica Co., Ltd.

#### RELATED PRODUCTS

- MP2200/MP2300 series machine controller (YASKAWA Electric Corp.) Ver.2.84 or later  
Software for programming device: MPE720  
Ver.6.36 or later OR Ver.7.22 or later
- MP3300 series machine controller (YASKAWA Electric Corp.) Ver.1.12 or later  
Software for programming device: MPE720  
Ver.7.28 or later

#### GENERAL SPECIFICATIONS

Terminating resistor: Built-in 100Ω  
Current Consumption (at 5 V DC): 160 mA

#### HLS COMMUNICATION

Communication mode\*: Full-duplex or half-duplex

Transmission distance\*: 12 Mbps: 100 meters (328 ft)

6 Mbps: 200 meters (656 ft)

3 Mbps: 300 meters (984 ft)

Number of slaves\*: 1 - 63

Hop count\*: 0 - 7 hop

\* Configured with MPE720. Refer to the instruction manual for details.

#### Network cable

shield cable:

ZHY262PS and ZHT262PS (Shinko Seisen Industry Co., Ltd.)

Dual-shield cable:

ZHY262PBA (Shinko Seisen Industry Co., Ltd.)

Status indicator: RUN, CHK1, CHK2

(Refer to the instruction manual for details.)

#### INSTALLATION

Operating temperature: 0 to 55°C (32 to 131°F)

Storage temperature: -25 to +85°C (-13 to +185°F)

Operating humidity: 30 to 95 %RH (non-condensing)

Storage humidity: 5 to 95 % RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: MP2200/MP2300/MP3300 Series

Weight: 70 g (2.5 oz)

#### PERFORMANCE

Insulation resistance:  $\geq 100 \text{ M}\Omega$  with 500 V DC

Dielectric strength: 1500 V AC @1 minute

(Internal circuit to HLS)

#### STANDARDS & APPROVALS

Refer to the manuals to comply with the standards.

EU conformity:

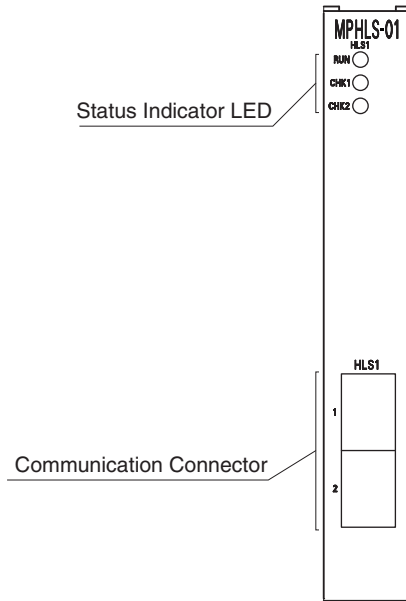
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

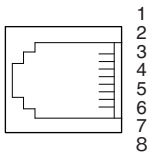
## EXTERNAL VIEW



## CONNECTION DIAGRAMS

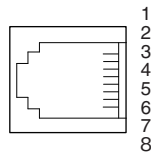
■ **Recommended cable connector:** TM21P-88P (Hirose Electric)  
(Not included in the package)

### Full-duplex communication



1. NC	No connection
2. NC	No connection
3. RXD+	Network (Slave, transmission +)
4. RXD-	Network (Slave, transmission -)
5. TXD+	Network (Master, transmission+)
6. TXD-	Network (Master, transmission-)
7. NC	No connection
8. SLD1	Shield

### Half-duplex communication

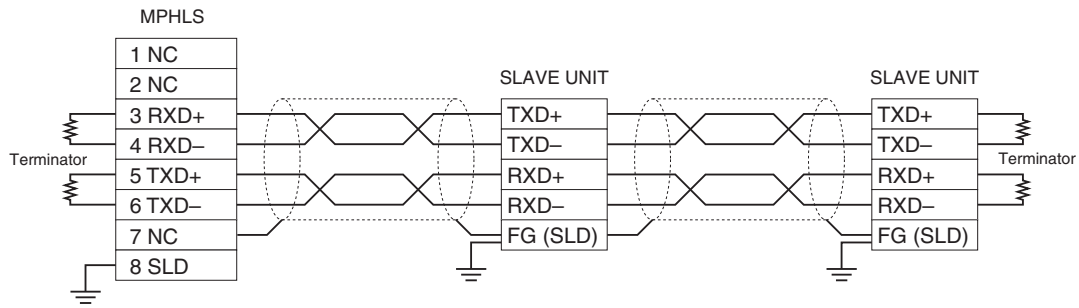


1. NC	No connection
2. NC	No connection
3. TR+	Network (+)
4. TR-	Network (-)
5. NC	No connection
6. NC	No connection
7. NC	No connection
8. SLD1	Shield

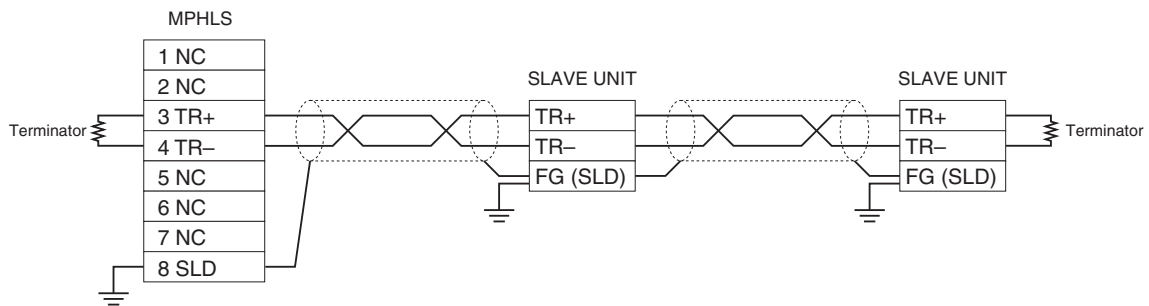
**Max. number of slave station**  
HLS1-1 port: 32, HLS1-2 port: 31

## ■ SLAVE UNIT WIRING

### Full-duplex communication

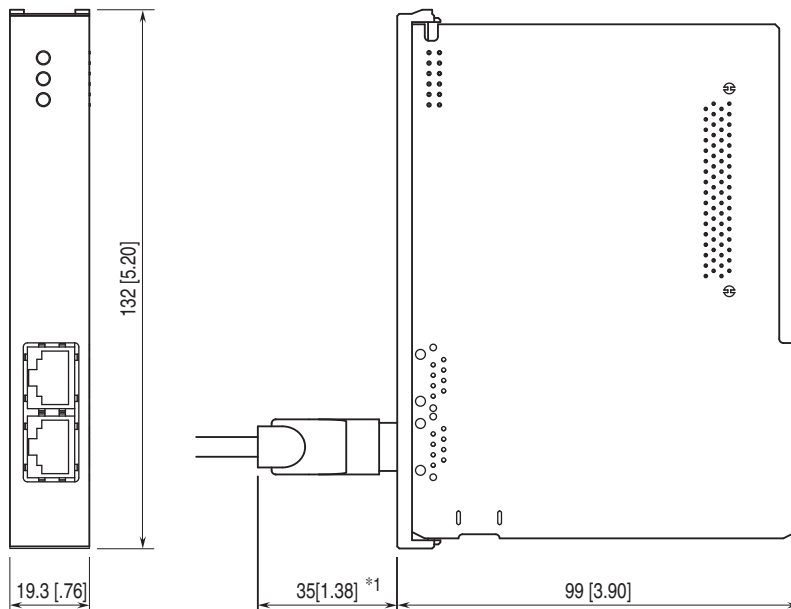


### Half-duplex communication



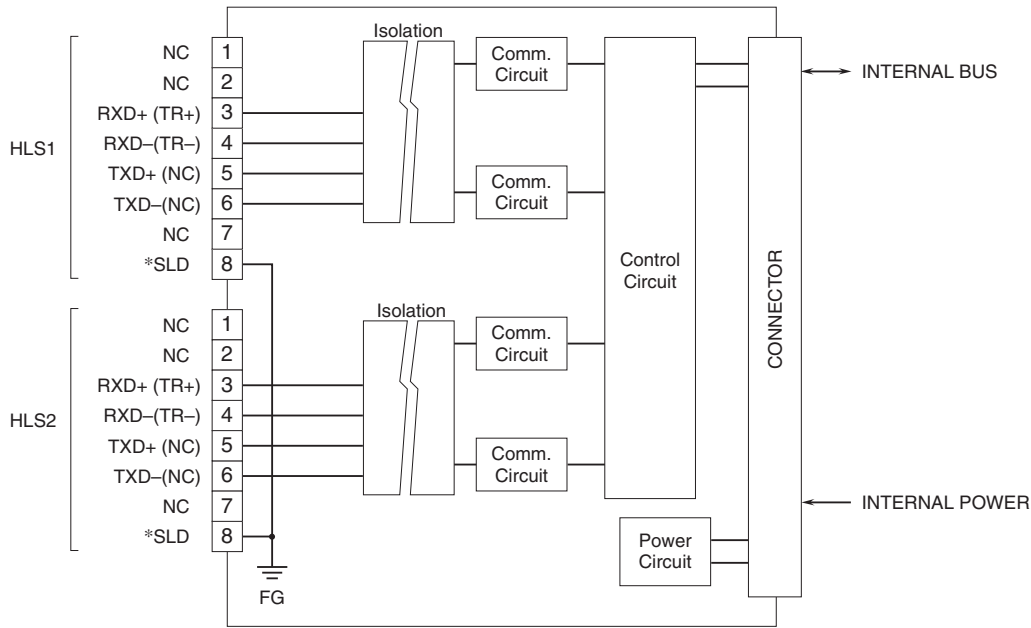
Set the terminator on the last terminal of slave unit.  
This HLS master module includes internal terminator.

## EXTERNAL DIMENSIONS unit: mm [inch]



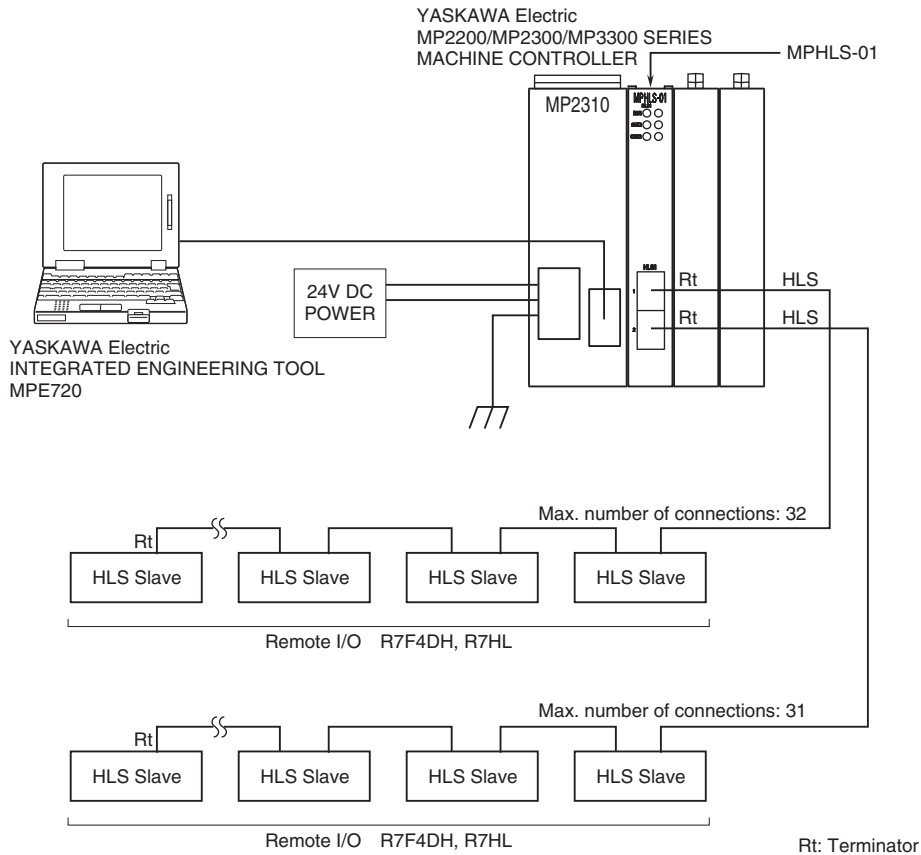
\*Recommended cable connector: TM21P-88P (Hirose Electric)

## SCHEMATIC CIRCUITRY



\*SLD is connected to FG terminal of the MP2200 / MP2300/MP3300 series machine controllers.

## SYSTEM DESCRIPTIONS



Note: For MP3200, the MPHLS is available to use by attaching MP2000 option base unit.



Specifications are subject to change without notice.