

# IO-Link Hub~~LKHA-xxxx-QM (8bit)

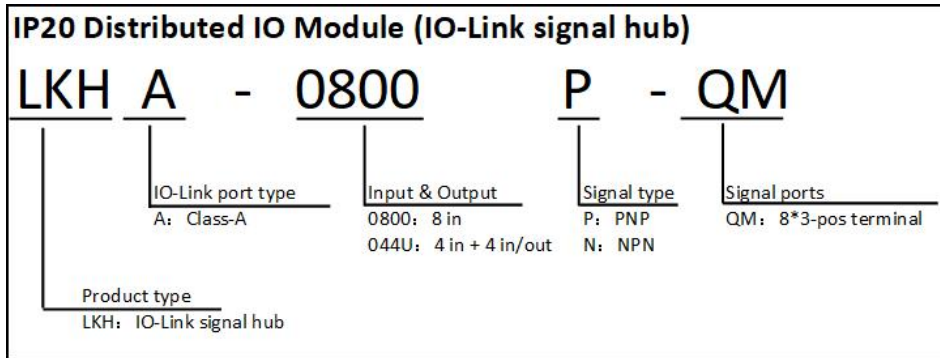
----Installation Manual



## 1.1 Scope of this manual:

This manual applies to the ELCO IO-Link signal Hub (8-bit QM, 4 types): LKHA-0800P-QM, LKHA-044UP-QM, LKHA-0800N-QM, LKHA-044UN-QM.

These 4 types of IO-Link hub use identical housings, with identical overall dimensions and connector types. There are differences in the signal types supported by different types of products. The coding rules are as follows:



Product overview:

1) LKHA-0800P-QM, LKHA-0800N-QM

Supply Voltage 24VDC, self-consumption max.100mA;

3-pos terminal module for

8 x Digital Input (Input Supply 8 x 24VDC/200mA)

2) LKHA-044UP-QM, LKHA-044UN-QM

Supply Voltage 24VDC, self-consumption max.100mA;

3-pos terminal module for

8 x Digital Input (Input Supply 8 x 24VDC/200mA)

or

4 x Digital Output (4 x 24VDC/500mA, max. in total 2A)

You can see the datasheet of 13 types in Section 2.1.

This product is specifically designed for industrial use and needs to be applied under specific conditions. This product serves as an IO-Link device and needs to be connected to the IO-Link master for use.

## 1.2 Basic knowledge requirements

Operators need to have basic knowledge in the fields of electrical and automation engineering. Any improper operation may cause harm to the equipment or human body.

This manual describes each component based on valid data at the time of release, and new components and parameter adjustments will be updated in the new version of the manual.

## 1.3 Guide:

This manual describes the hardware of IO-Link Signal Hub.

Covered topics are:

- Installation and wiring
- Commissioning and diagnostics
- Components
- Article numbers
- Technical specifications

## 1.4 Technical support:

Please contact your local ELCO representative or call hotline if you have any questions about the products described in this manual.

Additional information about ELCO products is available:

**Corporate name:** Tianjin Elco Automation Co., Ltd

**Company address:** No. 12, 4th XEDA Branch Road, Xiqing Economic-Technological Development Area ,Tianjin China

**Website:** <https://www.elcoautomation.com/en-us/>

**TEL:** +86 22 23888288

## 1.5 Electrical installation:



### WARNING

#### *Danger due to electrical voltage!*

An unqualified installation can affect the use of the equipment or lead to equipment damage!

- Only qualified electrical engineering personnel may install the modules.
- Only operate on 24 V DC voltage.
- Power supply must be connected to limited power source (LPS).
- Use Copper Conductors Only. Use min. 22AWG for IO-Link port connector and min. 26AWG for Signal I/O connector.

### ATTENTION

#### *La tension pose un danger!*

Une installation non conforme peut affecter l'utilisation de l'appareil ou causer des dommages à l'appareil!

- Seuls les ingénieurs électriciens qualifiés peuvent installer les modules.
- Fonctionne uniquement à 24 V DC.
- L'alimentation doit être connectée à une alimentation limitée (LPS).
- Utilisez uniquement des conducteurs en cuivre. Le connecteur de port io - LINK utilise un minimum de 22 AWG et le connecteur d'E / s de signal un minimum de 26 AWG.

## 1.6 Disclaimer of liability:



- Only qualified personnel may perform installation, commissioning, modification, inspection and retrofitting activities.
- Follow the applicable regulations and standards in the operating instructions and manual.
- Follow the safety regulations of the Employers' Liability Insurance Association and electrical engineering.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. We assume no liability for product damage or subsequent damage arising from non-observance of the regulations or improper handling of the products.

## 2.1 Datasheet

### LKHA-044UP-QM

#### ARTICLE PROPERTIES

<b>PRODUCT TYPE</b>	IO-Link IP20 mini hub
<b>DESCRIPTION</b>	4DI + 4DIO, PNP, 8 × 3-Pos terminals

#### ELECTRICAL CONNECTION

<b>IO-LINK</b>	1 × M12 A-CODE 4 Pin, Male	<b>SIGNAL</b>	8 × 3-Pos pluggable terminal blocks
<b>POWER SUPPLY</b>	Included in IO-Link interface		

#### ELECTRICAL PARAMETERS

<b>INPUT CHANNELS</b>	Max. 8	<b>OUTPUT CHANNELS</b>	Max. 4
<b>INPUT SUPPLY CURRENT</b>	Max 200 mA per channel, Sum 1.6 A	<b>OUTPUT CURRENT</b>	Max. 500 mA / Channel, sum 2 A
<b>INPUT DELAY</b>	1.6 ms	<b>OUTPUT TYPE</b>	Lamps, solenoidvalve, etc.
<b>POWER SUPPLY INDICATOR</b>	Green LED	<b>OUTPUT FREQUENCY</b>	Resistive 100 Hz, Inductive 5 Hz
<b>SIGNAL STATUS INDICATOR</b>	Green LED	<b>PROCESS DATA IN</b>	1 bytes
		<b>PROCESS DATA OUT</b>	1 bytes

#### DIAGNOSTICS

<b>COMMUNICATION STATUS</b>	LED indication, communication message	<b>SHORT-CIRCUIT</b>	Support, LED indication
<b>VOLTAGE DETECTION</b>	Support, low voltage alarm	<b>OVERLOAD</b>	Support, LED indication

#### FUNCTIONAL SAFETY

<b>MTTF (40 °C)</b>	80a
---------------------	-----

#### GENERAL DATA

<b>PROTECTION CLASS</b>	IP67	<b>OPERATING TEMPERATURE</b>	-25 ... +70 °C
<b>DIMENSIONS</b>	108 × 25 × 22mm	<b>STORAGE TEMPERATURE</b>	-40 ... +85 °C
<b>INSTALLATION</b>	Fixed by mounting bracket	<b>WEIGHT</b>	61.6 g

#### APPROVALS



## LKHA-0800P-QM

### ARTICLE PROPERTIES

<b>PRODUCT TYPE</b>	IO-Link IP20 mini hub
<b>DESCRIPTION</b>	8DI, PNP, 8 × 3-Pos terminals

### ELECTRICAL CONNECTION

<b>IO-LINK</b>	1 × M12 A-CODE 4 Pin, Male	<b>SIGNAL</b>	8 × 3-Pos pluggable terminal blocks
<b>POWER SUPPLY</b>	Included in IO-Link interface		

### ELECTRICAL PARAMETERS

<b>INPUT CHANNELS</b>	8	<b>OUTPUT CHANNELS</b>	-
<b>INPUT SUPPLY CURRENT</b>	Max 200 mA per channel, Sum 1.6 A	<b>OUTPUT CURRENT</b>	-
<b>INPUT DELAY</b>	1.6 ms	<b>OUTPUT TYPE</b>	-
		<b>OUTPUT FREQUENCY</b>	-
<b>POWER SUPPLY INDICATOR</b>	Green LED	<b>PROCESS DATA IN</b>	1 bytes
<b>SIGNAL STATUS INDICATOR</b>	Green LED	<b>PROCESS DATA OUT</b>	0 bytes

### DIAGNOSTICS

<b>COMMUNICATION STATUS</b>	LED indication, communication message	<b>SHORT-CIRCUIT</b>	Support, LED indication
<b>VOLTAGE DETECTION</b>	Support, low voltage alarm	<b>OVERLOAD</b>	Support, LED indication

### FUNCTIONAL SAFETY

<b>MTTF (40 °C)</b>	85a
---------------------	-----

### GENERAL DATA

<b>PROTECTION CLASS</b>	IP67	<b>OPERATING TEMPERATURE</b>	-25 ... +70 °C
<b>DIMENSIONS</b>	108 × 25 × 22mm	<b>STORAGE TEMPERATURE</b>	-40 ... +85 °C
<b>INSTALLATION</b>	Fixed by mounting bracket	<b>WEIGHT</b>	61.6 g

### APPROVALS



## LKHA-044UN-QM

### ARTICLE PROPERTIES

<b>PRODUCT TYPE</b>	IO-Link IP20 mini hub
<b>DESCRIPTION</b>	4DI + 4DIO, NPN, 8 × 3-Pos terminals

### ELECTRICAL CONNECTION

<b>IO-LINK</b>	1 × M12 A-CODE 4 Pin, Male	<b>SIGNAL</b>	8 × 3-Pos pluggable terminal blocks
<b>POWER SUPPLY</b>	Included in IO-Link interface		

### ELECTRICAL PARAMETERS

<b>INPUT CHANNELS</b>	Max. 8	<b>OUTPUT CHANNELS</b>	Max. 4
<b>INPUT SUPPLY CURRENT</b>	Max 200 mA per channel, Sum 1.6 A	<b>OUTPUT CURRENT</b>	Max. 500 mA / Channel, sum 2 A
<b>INPUT DELAY</b>	1.6 ms	<b>OUTPUT TYPE</b>	Lamps, solenoidvalve, etc.
		<b>OUTPUT FREQUENCY</b>	Resistive 100 Hz, Inductive 5 Hz
<b>POWER SUPPLY INDICATOR</b>	Green LED	<b>PROCESS DATA IN</b>	1 bytes
<b>SIGNAL STATUS INDICATOR</b>	Green LED	<b>PROCESS DATA OUT</b>	1 bytes

### DIAGNOSTICS

<b>COMMUNICATION STATUS</b>	LED indication, communication message	<b>SHORT-CIRCUIT</b>	Support, LED indication
<b>VOLTAGE DETECTION</b>	Support, low voltage alarm	<b>OVERLOAD</b>	Support, LED indication

### FUNCTIONAL SAFETY

<b>MTTF (40 °C)</b>	70a
---------------------	-----

### GENERAL DATA

<b>PROTECTION CLASS</b>	IP67	<b>OPERATING TEMPERATURE</b>	-25 ... +70 °C
<b>DIMENSIONS</b>	108 × 25 × 22mm	<b>STORAGE TEMPERATURE</b>	-40 ... +85 °C
<b>INSTALLATION</b>	Fixed by mounting bracket	<b>WEIGHT</b>	61.6 g

### APPROVALS



## LKHA-0800N-QM

### ARTICLE PROPERTIES

<b>PRODUCT TYPE</b>	IO-Link IP20 mini hub
<b>DESCRIPTION</b>	8DI, NPN, 8 × 3-Pos terminals

### ELECTRICAL CONNECTION

<b>IO-LINK</b>	1 × M12 A-CODE 4 Pin, Male	<b>SIGNAL</b>	8 × 3-Pos pluggable terminal blocks
<b>POWER SUPPLY</b>	Included in IO-Link interface		

### ELECTRICAL PARAMETERS

<b>INPUT CHANNELS</b>	8	<b>OUTPUT CHANNELS</b>	-
<b>INPUT SUPPLY CURRENT</b>	Max 200 mA per channel, Sum 1.6 A	<b>OUTPUT CURRENT</b>	-
<b>INPUT DELAY</b>	1.6 ms	<b>OUTPUT TYPE</b>	-
		<b>OUTPUT FREQUENCY</b>	-
<b>POWER SUPPLY INDICATOR</b>	Green LED	<b>PROCESS DATA IN</b>	1 bytes
<b>SIGNAL STATUS INDICATOR</b>	Green LED	<b>PROCESS DATA OUT</b>	0 bytes

### DIAGNOSTICS

<b>COMMUNICATION STATUS</b>	LED indication, communication message	<b>SHORT-CIRCUIT</b>	Support, LED indication
<b>VOLTAGE DETECTION</b>	Support, low voltage alarm	<b>OVERLOAD</b>	Support, LED indication

### FUNCTIONAL SAFETY

<b>MTTF (40 °C)</b>	75a
---------------------	-----

### GENERAL DATA

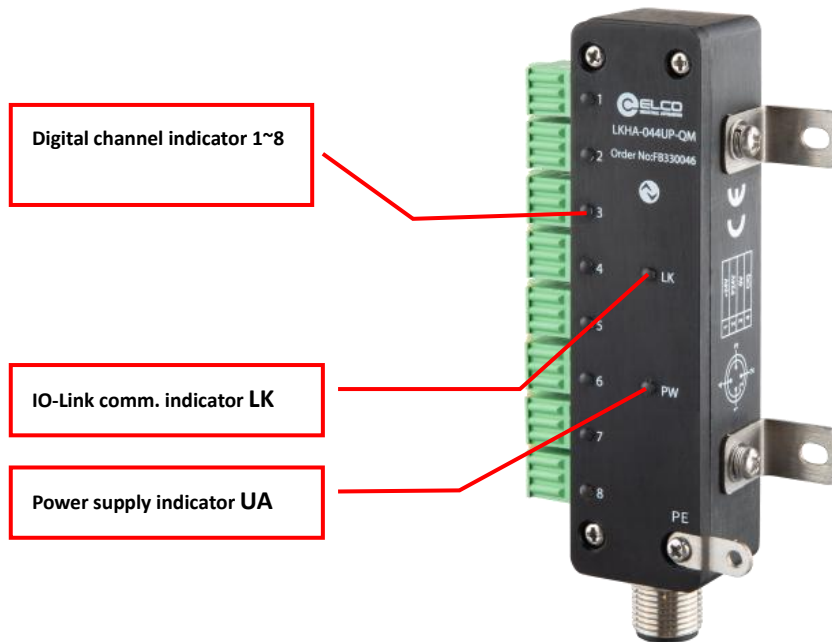
<b>PROTECTION CLASS</b>	IP67	<b>OPERATING TEMPERATURE</b>	-25 ... +70 °C
<b>DIMENSIONS</b>	108 × 25 × 22mm	<b>STORAGE TEMPERATURE</b>	-40 ... +85 °C
<b>INSTALLATION</b>	Fixed by mounting bracket	<b>WEIGHT</b>	61.6 g

### APPROVALS

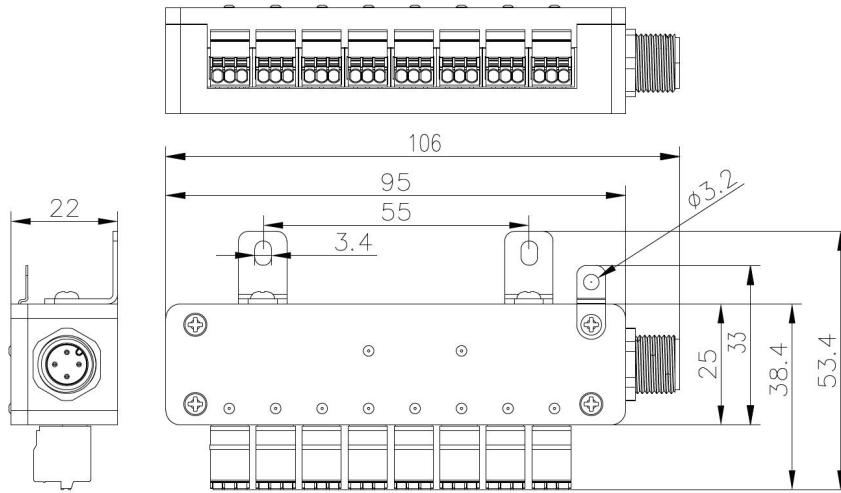


## 2.2 LED indicator

IO-Link signal hub indicator



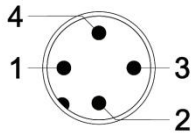
## 2.3 IO-Link signal hub dimensions



## 2.4 Wiring

Please make sure to cut off power supply when wiring to ensure safety.

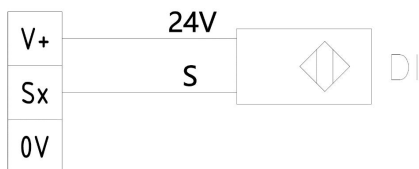
1) IO-Link port connector (M12 A-Code 4-pin, Male)



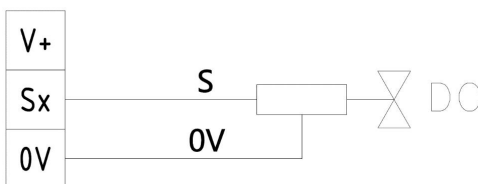
Terminal	Class-A
1	1L Power supply 24V+ (Us)
2	2L Power supply P24 (Ua)
3	1M&2M Power supply GND
4	IO-Link C/Q

2) Wiring example

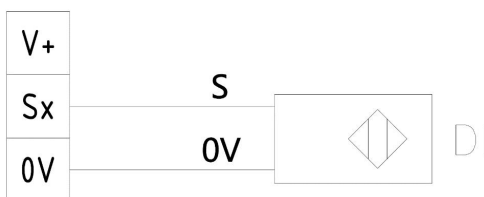
A) PNP input signal – LKHA-0800P-QM, LKHA-044UP-QM support this connection.



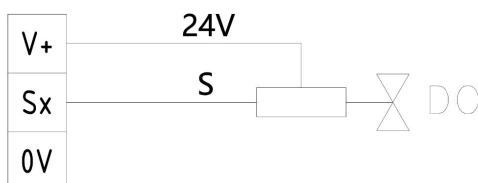
B) PNP output signal – LKHA-044UP-QM support this connection.



C) NPN input signal – LKHA-0800N-QM, LKHA-044UN-QM support this connection.



D) NPN output signal – LKHA-044UN-QM support this connection.



## 2.5 IO-Link signal hub indicator

Name	Status	Meaning	Fault cause
<b>Module communication Indicator LK</b>	Green flash	Receive IO-Link communication	–
	Off	No IO-Link signal received	1.Expansion cable failure 2.Master IO-Link port problem 3.Slave module is damaged
<b>Power supply Indicator PW</b>	Green	Supply voltage normal	
	Off	No power supply	1.Power supply cable failure 2. Module is damaged
<b>Signal / status Indicator</b>	Red	Abnormal signal	1.Signal overload or short circuit 2.Slave module is damaged
	Green	Have signal	–
	Off	No signal	–