Manual de instrucciones — **ESPAÑOL (es)**

Traducción del manual original

NOTA

El dispositivo está diseñado y fabricado para uso industrial, un funcionamiento bajo las condiciones ambientales especificadas, el montaje en un armario de distribución y una instalación conforme a estas instrucciones.

- Utilizar el producto únicamente en su estado original.
- Prestar atención a que la instalación sea conforme a los requisitos de compatibilidad electromagnética.
- ¡No emplear medios agresivos!
- Todos los cables de conexión deben seleccionarse en función de las corrientes y características de ambiente presentes.

Si no se respetan las condiciones ambientales, el funcionamiento seguro del producto ya no queda garantizado.

¡ADVERTENCIA!

¡Tensiones mortales!

Como resultado de un fallo en la fuente de alimentación puede haber tensiones por encima de 120 V CC o 50 V CA en piezas susceptibles de ser tocadas.

- Utilizar solamente fuentes de alimentación que en caso de error admitan como máx. 60 V CC o 25 V CA. Deben corresponderse con SELV o PELV.

¡ATENCIÓN!

¡Peligro de quemaduras!

¡Durante el funcionamiento está prohibido efectuar conexiones o desconexiones eléctricas! En caso de inobservancia existe peligro de arco voltaico, que puede provocar quemaduras.

- Desconectar el dispositivo de la fuente de suministro eléctrico.

¡Superficie muy caliente!

Lesiones físicas leves al tocar la superficie.

- Llevar guantes de protección térmica adecuados.

Daños en el dispositivo por líneas de conexión inadecuadas.

- Utilizar solamente líneas de conexión térmicamente adecuadas.

A **Dimensiones** en mm

B **Distancia de montaje a| - Fijación b|**

a| hacia la pared, el techo y entre los módulos:
con conector recto ≥3 mm, con conector angular ≥50 mm.

b| Utilizar tornillos de fijación en función de la calidad de la base de montaje.

C **Conexión a tierra funcional**

NOTA

Fijar la cinta de masa con un tornillo conductor.

D **Estructura modular**

X0 ... X7	Entradas y salidas digitales o IO-Link
XD1	Suministro de tensión POWER IN
XD2	Suministro de tensión POWER OUT
XF1	Ethernet Port 1
XF2	Ethernet Port 2
1	Interruptor giratorio
2	Cinta de masa para conexión a tierra funcional

E **Asignación de pines**

F **Conexión Líneas**

G **Datos técnicos**

Símbolo	Parámetros	Condiciones
Ta	Temperatura de servicio	
Tst	Temperatura de almacén	
OVC	Protección frente a sobretensión	
PD	Grado de ensuciamiento	
DoP	Grado de protección	EN 60529
FP	Protocolo bus de campo	
rH	Humedad relativa del aire	sin condensación

Encontrará información adicional, notas relativas a la planificación y accesorios en el manual y/o en la hoja técnica:
https://www.automationdirect.com/pn/doc/manual/SIOL-EI8B
¡Importante! Leer detenidamente antes del uso.
Guardar para futuras consultas.
Símbolos: https://www.iso.org/obp

Mode d'emploi — **FRANÇAIS (fr)**

Traduction de la notice originale

REMARQUE

L'appareil a été conçu et produit pour l'utilisation industrielle, l'opération dans des conditions d'environnement spécifiées, le montage dans une armoire électrique et l'installation conformément à ces instructions.

- N'utiliser le produit que dans son état d'origine.
- Veiller à une installation conforme aux prescriptions CEM.
- Ne pas utiliser de milieux agressifs.
- Les câbles de raccordement doivent être choisis en fonction des courants principaux et des caractéristiques environnementales.

Si les conditions d'environnement ne sont pas respectées, il n'est pas possible de garantir l'opération sûre du produit.

ATTENTION!

Tensions mortelles !

Si un bloc d'alimentation est défectueux, des tensions supérieures à 120 V CC ou 50 V CA peuvent être présentes sur des pièces accessibles.

- Utiliser uniquement des blocs d'alimentation ne produisant qu'une tension max. de 60 V CC ou 25 V CA en cas de défaut. L'alimentation doit être SELV ou PELV.

ATTENTION!

Risque de brûlures !

Il est interdit de desserrer ou de créer des connexions électriques pendant l'opération ! Un non-respect de cette règle risque de générer des arcs pouvant causer des brûlures.

- Mettre l'appareil hors tension.

Surface chaude !

Blessures corporelles légères dues au contact avec la surface.

- Porter des gants offrant une protection thermique adaptée.

Endommagement de l'appareil dû à des câbles de raccordement non appropriés.

- Veillez à utiliser uniquement des câbles de raccordement appropriés du point de vue thermique.

A **Dimensions** en mm

B **Distance de montage a| - Fixation b|**

a| Au mur, au plafond et entre les modules :
Pour connecteur mâle droit ≥3 mm, pour connecteur mâle coudé ≥50 mm.

b| Utiliser des vis de fixation en fonction de la nature de la surface de montage.

C **Raccord terre fonctionnelle**

REMARQUE

Fixer la tresse de mise à la masse à l'aide d'une vis conductrice.

D **Structure du module**

X0 ... X7	Entrées et sorties numériques ou IO-Link
XD1	Alimentation en courant POWER IN
XD2	Alimentation en courant POWER OUT
XF1	Port Ethernet 1
XF2	Port Ethernet 2
1	Commutateur rotatif
2	Tresse de mise à la masse pour terre fonctionnelle

E **Affectation des broches**

F **Raccordement câbles**

G **Caractéristiques techniques**

Symbole	Paramètre	Conditions
Ta	Température de service	
Tst	Température de stockage	
OVC	Protection contre les surtensions	
PD	Degré d'encrassement	
DoP	Indice de protection	EN 60529
FP	Protocole de bus de terrain	
rH	Humidité relative	aucune condensation

Vous trouverez des informations générales, des remarques relatives à la planification et les accessoires dans le manuel et/ou dans la fiche technique:
https://www.automationdirect.com/pn/doc/manual/SIOL-EI8B
Important ! Lire attentivement avant l'utilisation.
Conserver pour une consultation ultérieure.
Symboles: https://www.iso.org/obp

Betriebsanleitung — **DEUTSCH (de)**

Originalbetriebsanleitung

HINWEIS

Das Gerät ist konstruiert und gefertigt für den industriellen Einsatz, den Betrieb innerhalb der spezifizierten Umgebungsbedingungen, den Einbau in einem Schaltschrank sowie die Installation gemäß dieser Anleitung.

- Produkt nur im Originalzustand verwenden.
- Auf EMV-gerechte Installation achten.
- Kein Einsatz aggressiver Medien.
- Alle Anschlusskabel sind entsprechend der vorherrschenden Ströme und Umgebungseigenschaften zu wählen.

Wenn die Umgebungsbedingungen nicht eingehalten werden, ist ein sicherer Betrieb des Produkts nicht mehr gewährleistet.

WARNUNG!

Lebensbedrohliche Spannungen!

Bei einem Defekt eines Netzteils können Spannungen höher als 120 V DC bzw. 50 V AC an berührbaren Teilen anliegen.

- Nur Netzteile verwenden, die im Fehlerfall max. 60 V DC bzw. 25 V AC zulassen. Sie müssen SELV oder PELV entsprechen.

VORSICHT!

Verbrennungsgefahr!

Während des Betriebs ist das Lösen oder Herstellen von elektrischen Verbindungen untersagt! Bei Nichtbeachten besteht die Gefahr von Lichtbögen, die zu Verbrennungen führen können.

- Gerät spannungsfrei schalten.

Heiße Oberfläche!

Leichte Körperverletzungen durch Berührung der Oberfläche.

- Thermisch geeignete Schutzhandschuhe tragen.

Geräteschäden durch ungeeignete Anschlussleitungen.

- Nur thermisch geeignete Anschlussleitungen verwenden.

A **Abmessungen** in mm

B **Montageabstand a| - Befestigung b|**

a| zur Wand, Decke und zwischen den Modulen:
bei Stecker gerade ≥3 mm, bei Stecker gewinkelt ≥50 mm.

b| Befestigungschrauben entsprechend der Beschaffenheit des Montageuntergrunds verwenden.

C **Anschluss Funktionserde**

HINWEIS

Masseband mit einer leitenden Schraube befestigen.

D **Modulaufbau**

X0 ... X7	Digitale Ein- und Ausgänge oder IO-Link
XD1	Spannungsversorgung POWER IN
XD2	Spannungsversorgung POWER OUT
XF1	Ethernet Port 1
XF2	Ethernet Port 2
1	Drehschalter
2	Masseband für Funktionserde

E **Pin-Belegung**

F **Anschluss Leitungen**

G **Technische Daten**

Symbol	Parameter	Bedingungen
Ta	Betriebstemperatur	
Tst	Lagertemperatur	
OVC	Überspannungskategorie	
PD	Verschmutzungsgrad	
DoP	Schutzart	EN 60529
FP	Feldbus-Protokoll	
rH	Relative Luftfeuchtigkeit	keine Betauung

Hinweise zur Planung, Hintergrundinformationen und Zubehör finden Sie im Handbuch und/oder Datenblatt:
https://www.automationdirect.com/pn/doc/manual/SIOL-EI8B
Wichtig! Vor Gebrauch sorgfältig lesen.
Aufbewahren für späteres Nachschlagen.
Symbole: https://www.iso.org/obp

Operating instructions — **ENGLISH (en)**

Translation of the original instructions

NOTE

The device has been designed and manufactured for industrial use, operation according to specified ambient conditions, integration into a control cabinet, and installation according to these instructions.

- Use the product only in its original condition.
- Ensure EMC-compliant installation.
- Not intended for use in corrosive enviroments.
- All connecting cables must meet requirements for power and environmental conditions.

Safe operation of the product cannot be guaranteed if the ambient conditions are not adhered to.

WARNING!

Life-threatening voltages!

If there is a defect in a power supply unit, voltages on touchable components may reach 120 VDC or 50 VAC and more.

- Use only power supply units which allow max. 60 VDC or 25 VAC in the event of a fault. They must comply with SELV or PELV.

CAUTION!

Risk of burns!

It is prohibited to separate or establish electrical connections during operation! Failure to observe this warning may result in electric arcs that can cause burns.

- Disconnect the device from the voltage source.

Hot surface!

Minor injuries may be caused by touching the surface.

- Wear thermally suitable protective gloves.

Device damage due to unsuitable connecting cables.

- Use thermally suitable connecting cables only.

A **Dimensions** in mm

B **Mounting distance a| - Fastening b|**

a| to the wall, ceiling and between the modules:
for straight male connectors ≥3 mm, for angled male connectors ≥50 mm.

b| Use fastening screws that are suitable for the mounting surface structure.

C **Functional earth ground**

NOTE

Fasten the ground strap using a conductive screw.

D **Module structure**

X0 ... X7	Digital inputs and outputs or IO-Link
XD1	Power supply POWER IN
XD2	Power supply POWER OUT
XF1	Ethernet port 1
XF2	Ethernet port 2
1	IP address selector switch
2	Ground strap for functional earth ground

E **Pin assignment**

F **Connection of cables**

G **Technical Data**

Symbol	Parameter	Conditions
Ta	Operating temperature	
Tst	Storage temperature	
OVC	Overvoltage protection	
PD	Degree of pollution	
DoP	Degree of protection	EN 60529
FP	Field bus protocol	
rH	Relative humidity	No dewing

Planning information, background information and accessories can be found in the manual and/or data sheet:
https://www.automationdirect.com/pn/doc/manual/SIOL-EI8B
Important! Read carefully before use.
Keep for future reference.
Symbols: https://www.iso.org/obp

SIOL-EI8B

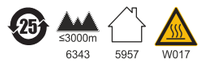
IO-Link Master Basic

EtherNet/IP DIO8 IOL8 M12L 5P

Powered by

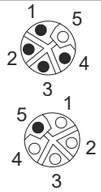
Murrelektronik GmbH
Falkenstraße 3
71570 Oppenweiler
GERMANY
www.murrelektronik.com

en **Operating instructions**
de **Betriebsanleitung**
fr **Mode d'emploi**
es **Manual de instrucciones**

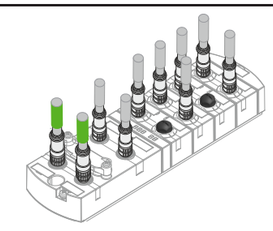


Art.-No. 546020 IO-Link Master Basic E DIO8 IOL8 M12L 5P

E

M12A (Signal)	**X0 ... X7 IOL**	
	Pin 1	24 V ⎓
	Pin 2	DI/DO
	Pin 3	0 V
	Pin 4	DI/DO/IO-Link
	Pin 5	0 V
M12L (Power)	**XD1/XD2**	
	Pin 1	24 V ⎓ US (IO-Link/DI)
	Pin 2	0 V
	Pin 3	0 V
	Pin 4	24 V ⎓ UA (DO)
	Pin 5	⏚
M12D (Ethernet)	**XF1/XF2**	
	Pin 1	TD +
	Pin 2	RD +
	Pin 3	TD -
	Pin 4	RD -
	Pin 5	n.c.

F



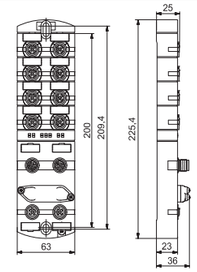
M12	0,6 Nm		M12 Torque Wrench

G

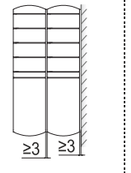
Ta	-25 °C to +70 °C [-13°F to +158°F]
Tst	-25 °C to +85 °C [-13°F to +185°F]
OVC	II
PD	2
DoP	IP67
FP	EtherNet/IP
rH	≤95 %

Label	Description
X0 ... X7	Digital inputs and outputs or IO-Link
XD1	Power supply POWER IN
XD2	Power supply POWER OUT
XF1	Ethernet port 1
XF2	Ethernet port 2
1	IP address selector switch
2	Ground strap for functional earth ground

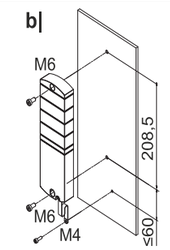
A



B **a|**

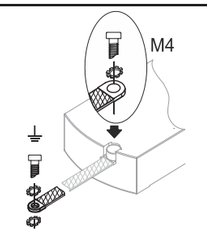


b|



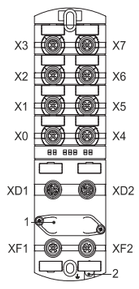
M6	3 Nm		Phillips Screwdriver (Part No. TW-SD-PH-2)

C



M4	1,2 Nm		Phillips Screwdriver (Part No. TW-SD-PH-2)

D



Rotary Switch Settings for IP Address and Webserver Status

The three rotary switches used to set the IP address and webserver function are located beneath a clear cover on the face of the Stride Basic IO-Link Master.

To access the switches, remove the two screws retaining the cover.

Note: The IO-Link Master must be power-cycled for new rotary switch settings to take effect. IP address changes made (applied) from the webserver may not be retained after power cycle depending on the rotary switch settings.

Webserver Defaults: IP Address = 192.168.1.6
Username = admin
Password = private

Rotary Switch Settings

X100	X10	X1	Setting
0	0	0	DHCP (default). IP address settings can be changed to BOOTP or STATIC and saved using the webserver, DHCP server tool or by setting rotary switches to 255 before power cycling the device. Previous IP address settings are retained on power cycle.
0	0	1	Fourth octet of IP address (other three octets retained from DHCP, WebUI or setting 777). Factory default is 192.168.1.xxx. Use of setting 777 changes the subnet to 192.168.100.xxx. STATIC IP configuration.
thru			
2	5	4	
2	5	5	All four octets of IP address defined through webserver (default is 192.168.1.6). STATIC IP configuration. Previous IP address assignments retained.
7	7	7	IP address STATIC at 192.168.100.177.
9	1	3	Disable webserver.
9	1	4	Enable webserver (webserver is enabled by default).
9	7	9	Factory reset. To perform factory reset: set switches to this position, power cycle the device, wait 2 minutes, set switches to 0-0-0 or another desired setting and power cycle the device again.

Initial setup of IO-Link Master on Productivity Suite v3.11 or later

The Stride Basic IO-Link Master can be used with EtherNet/IP scanners capable of Class 1 I/O Messaging (Implicit). Below, we show how to quickly get started using any EtherNet/IP capable Productivity PLC.

1) Download the Stride Basic IO-Link Master's EDS file from go2adc.com/iolink.

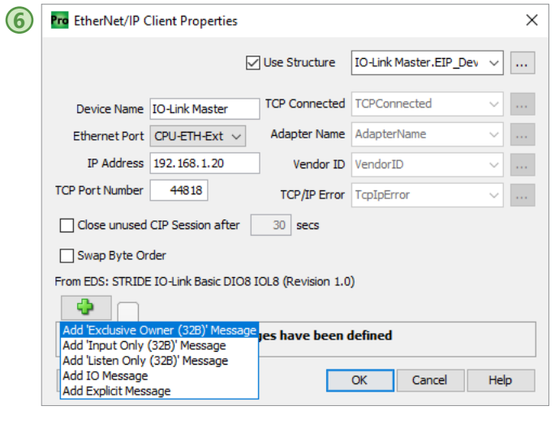
2) Open Productivity Suite and start a new project, or open an existing project.

3) Open the **Hardware Configuration** window and navigate to the **EtherNet/IP** tab.

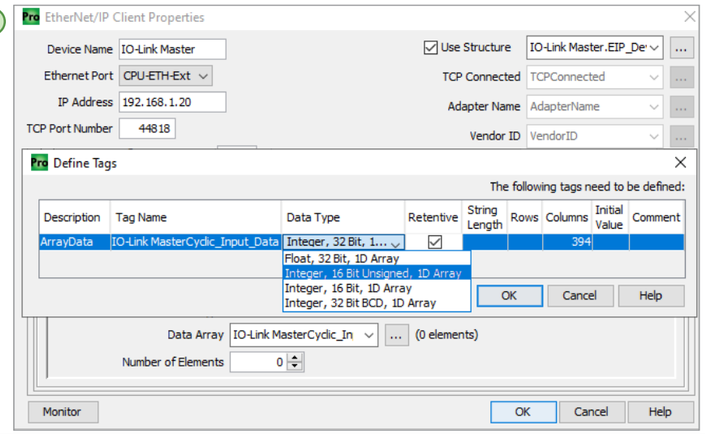
4) Click **Import EDS File**, navigate to your download location, and double-click on the EDS file you downloaded for your IO-Link Master. Then drag the new entry to the device area underneath the hardware tabs. If your EDS library already has the SIOL-EI8B part available, you can skip the import step.

5) Enter tag names for the required elements in your EtherNet/IP device and its IP address, using Structure to organize tags, if desired.

6) Click on the ✚ icon to add a new EtherNet/IP message. A list of available connections will be displayed. The appropriate selection will depend on the connected IO-Link devices.

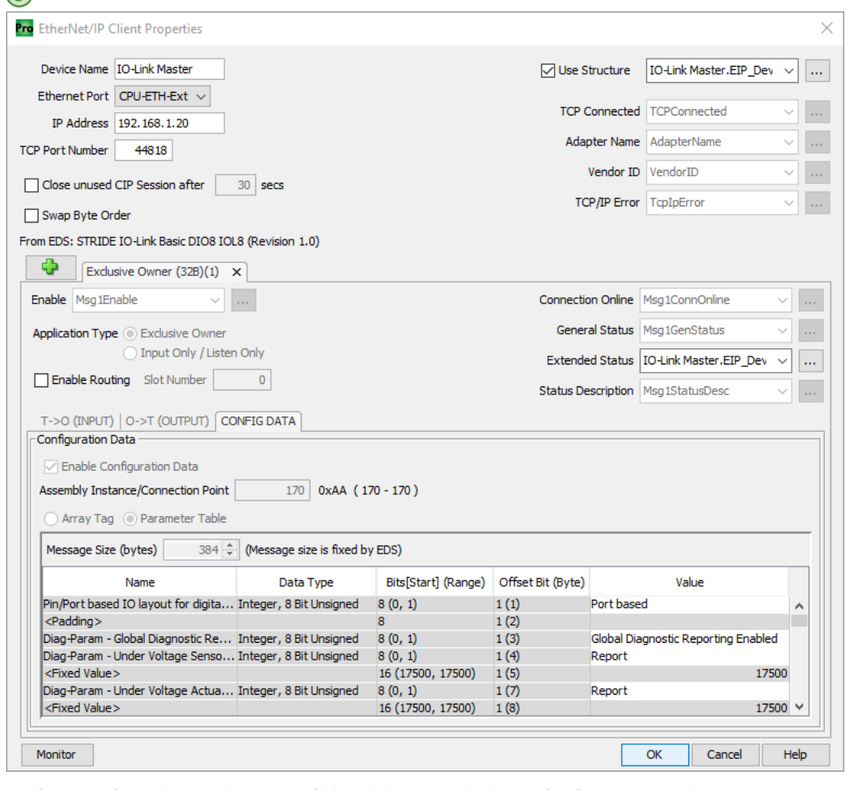


7) Specify a data array for both the **T->O (INPUT)** and **O->T (OUTPUT)** tabs. The required size of each array will depend on the selected Connection from step 6.



Note: With the multiple data types and sizes used within the IO-Link Master, an 8-bit data type array may offer the simplest approach to data manipulation.

8) Select the **Config Data** tab and modify parameters as needed.



9) Once configured as desired, click OK and close the Hardware Configuration window. Send the program to your PLC.

10) Your IO-Link Master is now configured. EtherNet/IP communication can be established by setting the first message's Enable bit high.

Using data from an IO-Link device

1) To use IO-Link devices within Productivity Suite, open the **Hardware Configuration** window, navigate to the **EtherNet/IP** tab, and open the connection you specified for your IO-Link Master. Select the message you wish to use and click on the **EDS Parameters** button. Make a note of the IO-Link Port number (X0-X7) and the range (starting with the offset byte) where its input data is stored. For example, with a message size of 32 bytes per port, IO-Link Port X0's input data starts at byte 11 (in this example using the 8-bit integer type, array element 11).

2) In this example, we'll assume the data is a 32-bit floating point number and is coming from your sensor that is attached to port X0. Use the Pack Word instruction (PKW) to load the IO-Link Input Data array elements 11-14 to a new 32-bit integer. Below this instruction, use the Copy Data instruction (CPD) to copy the resulting 32-bit integer to a new 32-bit float using the Copy Binary setting. This will copy the bit data into the floating-point integer and provide you with your desired data.

Configuring Acyclic Reads and Writes with Productivity Suite and the Stride Basic Master

Acyclic data in an IO-Link device is data that is present in the device but is only accessed "on demand". Below, we show how to perform acyclic reads and writes with an IO-Link device using Productivity Suite and the Stride Basic Master.

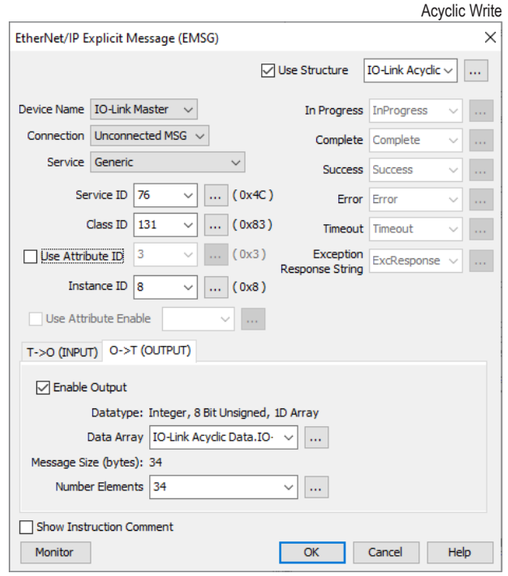
1) Configure the IO-Link Master as a Client in the EtherNet/IP tab of the Hardware Configuration window. The IO-Link Master can be configured as a "Generic Client" or with an EDS file.

2) Once the IO-Link Master is configured as an EtherNet/IP Client, the acyclic reads and writes are performed using EtherNet/IP Explicit Message (EMSG) instructions.

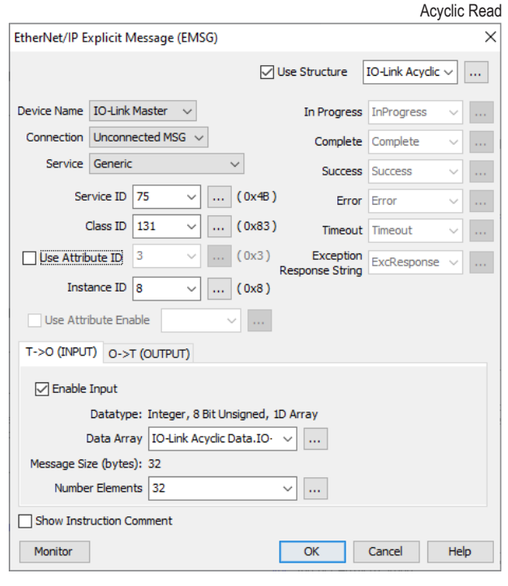
3) Create an EMSG instruction and configure as follows:

- **a)** Device Name = name of EtherNet/IP Client
- **b)** Connection = Unconnected MSG
- **c)** Service = Generic
- **d)** Service ID = 75 (for Read) or 76 (for Write)
- **e)** Class ID = 131
- **f)** Instance ID = [port number on IO-Link Master that is connected to the IO-Link Device (e.g., port X0 = 1, port X1 = 2, …, port X7 = 8)
- **g)** Attribute ID is not necessary and can be deselected.
- **h)** The Data Arrays for the Input (T->O) and Output (O->T) must not exceed the maximum number of allowed bytes (232). Also, it is recommended that the Data Arrays be 8 Bit Unsigned Integers.
- **i)** The Output Data Array should be structured as follows:
  - Bytes 1 & 2 = Index number of the data element in the IO-Link device (IO-Link Device Index is a 16-bit UINT.)
  - Byte 3 = Subindex number of the data element in the IO-Link device (IO-Link Device Subindex is an 8-bit USINT.)
  - Bytes 4+ = data being written to the IO-Link device element

Acyclic Write



Acyclic Read



Note: For a Read, Message Size/Number Elements must be 3 (2 bytes for the Index value and 1 byte for the Subindex value).

Note: For a Write, the amount of data being written to the IO-Link device must match the parameter being written to. If data exceeds the parameter size, then an error will be generated (e.g. 0x1E, "Embedded service error").

Example 1: Device parameter is 8 bit integer (1 byte), then Number Elements should be 4 (first three bytes containing Index and Subindex numbers, plus 1 byte of data).

Example 2: Device parameter is 29 byte string, then Number Elements should be 32 (first three bytes containing Index and Subindex numbers, plus 29 bytes of string data).

For Additional Help:

- Visit **https://go2adc.com/iolink** or scan the QR code at the right for product documentation.
- Call our Technical Support team at **770-844-4200**.