## 3<sup>rd</sup> Party PLCs and ULK Series quick guide

Using Unitronics PLCs with ULK masters and hubs is recommended for the easy to use and "plug and play" user experience, however ULK series can be used by any PLC brand that support Ethernet/IP protocol.

EDS files for the ULK-EIP masters can be downloaded from Unitronics Website ►

https://downloads.unitronicsplc.com/Sites/plc/Technical\_Library/IOandCOMUnistream/IO-Link/Unitronics%20IO-Link%20masters%20EDS-1.zip

IODD files for the ULK hubs (Digital and analog) can be download ►

https://downloads.unitronicsplc.com/Sites/plc/Technical\_Library/IOandCOMUnistream/IO-Link/IODD%20files%20for%20hubs.zip

## **IO-LINK devices parameters configuration via Unitronics Masters**

In addition to the cyclic data (PDOs) that the PLC reads during the standard communication method, there are additional "settings parameters" for the IO-Link sensor/device that are defined in the IODD file and can be set Using our IO-Link masters via "IO-Link control tool" software.

Using this tool is not mandatory for the IO-Link device/sensor unless you would like to change the "settings parameters" of the sensor (Changing mode of operation and etc.)

The data from the devices to the master's will have to be "parsed" by the user manually on the 3<sup>rd</sup> party PLC side in order to read them clearly (Bytes structure Input/Output described on the EDS/ULK-EIP manuals)

## **Procedure** ►

Unitronics IO-Link masters (ULK-EIP-8AP6, ULK-EIP-4A4BP6 & ULK-EIP-4AP6) has a default IP address 192.168.1.200

In case you wish to change the master IP use ULK\_IP\_TOOL (procedure on Unlogic help file under IO-Link topic) https://downloads.unitronicsplc.com/Download/SoftwareVersions/UniLogic/ULK\_IP\_Tool.zip • Set your PC network card to be in the same master IP family (for example 192.168.1.100)

Internet Protocol Version 4 (TCP/IPv4) Properties				
General				
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	matically if your network supports ask your network administrator			
Obtain an IP address automatical	ly			
• Use the following IP address:		11		
IP address:	192 . 168 . 1 . 100			
Subnet mask:	255.255.255.0			
Default gateway:				
Obtain DNS server address auton	natically			
• Use the following DNS server add	resses:			
Preferred DNS server:				
Alternate DNS server:				
Validate settings upon exit	Advanced			
	OK Cancel			

- Connect the Master ethernet cable port to the PC network port (direct connection) And power on the IO-Link master. And connect the IO-Link device that needs to be configured to the X1-X4/X1-X8 (depends on master model) port.
- Open the software (IO-Link control tool) <u>https://downloads.unitronicsplc.com/Sites/plc/Technical\_Library/IOandCOMUnistream/IO-Link/ADP-ULKCFG-configuration-tool.zip</u>



select "Tools" in the menu bar, and click the "IODD Catalog" button.

• Enter the Device selector interface and click the "Import" button.

Device selector			
	Languages	IO-Link Devices:	
	~	> 🚟 Hans Turck GmbH & Co.KG	
Device basic data	IO-Link data		
Vendor:	Bitrate:		
Device:	IO-Link version:		
V(=d+=10)	MinCycle time:		
vendor ID:	SIO mode:		
Device ID:			
FW Upgrade:			
BLOB Transfer:			
Description			
IODD data			
			<u>'</u>
		IODD Finder Import Delete	
Release date: Document version:		Exit Select device	

• Find the IODD file of your IO-LINK device, click on the file, and click to open.

- Open				×
$\leftrightarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\square$ $\rightarrow$ This PC $\rightarrow$ Downloads $\rightarrow$	IODD_RFID_IO-Link > M18	✓ Č		
Organize 🔻 New folder			III 🔻 🔟	?
📙 lvgeny Blokh - Mexico, 2023	^ Name	Date modified	Туре	Size
Technical Support - Products Support	Turck-TN-M18-IOL-H1141-20190301-IODD1.1.xml	11/04/2019 10:23	XML Document	
💻 This PC				
3D Objects				
x Desktop				
🖆 Documents				
👆 Downloads				
👌 Music				
Notures				
🔮 Videos				
🏭 OS (C:)				
🚍 shared (\\storage2) (S:)				
🚍 priority (\\storage2) (T:)				
Network	v <			>
File name:		∽ xml (XML	) (*.XML)	~
		Оре	n Cancel	

• Now you can see the device added to the list.

Device selector			
	Languages     V	IO-Link Devices:	-20190313-IODD1.1
Device basic data	IO-Link data	Turck-TN-M18-IC	L-H1141-20190301-IODD
Vendor:	Bitrate:		
Device:	IO-Link version:		
Vendor ID:	MinCycle time:		
Device ID:	SIO mode:		
FW Upgrade:			
BLOB Transfer:			
Description			
IODD data		<	>
IODD:		IODD Finder Imp	ort Delete
Release date: Document version:		Exit	Select device

- Select TCP/IP for the comm port.
- Insert the Master IP address.
- For the port ► choose the master port your device is connected to.
   300= X1-X4 master port
   301= X5-X8 master port (only on 8 port masters)

➡ TEConcept GmbH - IO-Link Control Tool (CT) v3.14 - Untitled	_	
File View Mastersettings Firmware update Tools Help		•
		Observer
Settings         Communication Interface:         Settings         Communication Interface:         Communication Interface:         Communication Interface:         Padress:       152:158:120         Padress:       152:158:120         Padress:       1000         Int Interact (ms):       1000         Advanced settings       1000         Advanced settings       Shot ISDUGet Telegram		1
IO-Link Master status: Not connected		

• Click the connect button to connect.



- Make sure your IO-Link device is connected to Master port.
- Select Used Port (1-8)
- Click on the select device button and choose your device IODD file.
- If connection is achieved, you will get the statuses as in the below right picture.

TEConcept GmbH - 10-Link Contro File View Master settings Firm 0 0 0 0 0 0 0 0 0 0	I Tool (CT) v3.14 - Untitled	elp Port 4			
PC     PC     Pot 1     Pot 3     Pot 3     Pot 3     Pot 3     Pot 4     Pot 4	Device Control Device info Device info Device : - Device image SiO / ISDU / DS:	IO-Link revision: Bit rate: Min cycle time:	Parameters     Search in par     Search in par     Search in par     Name	Port Control Advance configuration: IQ Behavior: Power OFF Inactive DI	Power ON DO IO-Link
	Select Port Control Advance configuration: IQ Behavior: Power OFF Inactive DI	Power ON DO IO-Link	Process Data	-Connected device state Vendor ID: Device ID: Product ID: Serial number:	0x013D 0x0D0101 100001079 0000618748-35
	Connected device state Vendor ID: Device ID: Product ID: Serial number: Vendor name: Product name:	0x070E 0x001203 40000341 123 Unitronics Unitronics	PD input:	Vendor name: Product name: Cycle time: IO-Link Revision: Port state:	BI10-M30-IOLU69X2-H 2 700 μs V1.1 <b>IO-Link</b>
Joe OIO-Link	Cycle time:	54 400 µs	• [	Operate in IO-Link: Fault:	Yes NOFAULT

- Click the Read All button to upload all parameters to the software
- Uploaded parameters include identification data, and parameter data



The status and output values can be monitored in real-time below (PDOs cyclic data)



You can change the parameter values as you need and write them to the sensor, those parameters are "settings parameters" and not PDOs that are used in a standard cyclic communication phase with the PLC.

File View Master settings Firm	ware update Tools He	lp								•
© © © <b>S S O</b> <i>© ©</i>	戦,									Observi
Topology	Port 1 Port 2 Port 3 Po	ort 4								
	Device Control Device info Device: BI3-M12-IOLI	U69X2-H1141	Parame Sea Name	ters rch in pari । 🎲 Menu 👻   👚 F	etch DS Index	Read All     Subindex	€ Read Rights	Selected Write	e Selected   Unit Value	,
IO-Link Port 2 Device isn't selected Inactive		V11 Bit rate:	- ::: - ::: - :::	Application Specific Tag     Parameter Menu     System Commands	24	0	RW	String		
Device isn't selected     Inactive     Pot 4     Device isn't selected		Min cycle time: 2700 µs		Var Restore Factory Settings Var Data Storage Lock	<b>2</b> 12	<b>0</b> 2	NA	Button Boolean	Restore Factor false	y Settings
Inactive	SIO / ISDU / DS:	√ √ √ t device		var Damping (ms) var teach state	82 258 61	0 0 2	RW RO RW	Unsigned Integer Unsigned Integer Unsigned Integer	0 last teach inval Single Point Me	lid (0) ode (1)
	Port Control Advance configuration: IQ Behavior:	©	Ť	Digital Output Configuration	61	1	RW	Unsigned Integer	Normally Close	
	Power OFF Inactive DI	Power ON DO IO-Link	~	Var Hysteresis Value Var PNP/NPN Digital Output Configuration	61 61	3 4	RW RW	Unsigned Integer Unsigned Integer	Normally Open Normally Close PNP (0)	(1)
	Connected device state Vendor ID: Device ID:	0x013D 0x0D0101	Proces	Var Inversion	61	1	RW	Unsigned Integer	Normally Close	(1)
Produ	Product ID: Serial number:	100001079 0000618748-35	IO-Link PD in	Mode: Process Data Input / Outpu <b>aput:</b> Validity:	valid					Plot
	Vendor name: Product name:	Turck BI10-M30-IOLU69X2-H114	Nam ~ C	e ) Process Data In	Value			Formatted Valu	e	Unit
	IO-Link Revision: Port state:	V1.1 IO-Link		wer Analog signal wer Target Out Of Range Warning	4095 Target (	Out Of Range (tr	ue)	4095 Target Out Of F	Range (true)	
< >	Operate in IO-Link: Fault:	Yes NOFAULT		we High Temperature Warning	Temper Temper	ature Ok (false) ature Ok (false)		Temperature OF	< (false) < (false)	
				var Output State	Output (	On (true)		Output On (true	)	~

END.