

# IO-Link

**SIKO IO-Link Device used with Studio5000**

Implementation Guide



## Table of Content

<b>1</b>	<b>Components used .....</b>	<b>3</b>
1.1	Objective of this manual.....	3
1.2	Trademarks .....	3
1.3	Liability .....	3
<b>2</b>	<b>Hardware Setup .....</b>	<b>4</b>
2.1	Components.....	4
<b>3</b>	<b>Software Requirements .....</b>	<b>5</b>
<b>4</b>	<b>Studio 5000 implementation .....</b>	<b>6</b>

## 1 Components used

1769-L33ER CompactLogix 5370 Controller	Rockwell PLC
1734 AENT 1735 Ethernet Adapter	Rockwell IO-Module
1734-4IOL 4 Channel IO-Link Master	Rockwell IO-Link Master
AP10 IOL 20 II IP53 K	SIKO electronic position indicator

### 1.1 Objective of this manual

The main objective of this document is to show the implementation of SIKO IO-Link devices into the Rockwell Studio 5000. It displays the implementation of an AP10 into a Rockwell/AllenBradley PLC.

**The manual is only a reference and not a directive of how to implement IO-Link devices. It also doesn't provide a programming guide for the Rockwell programming environment. It's intended exclusively for technicians trained in control and automation technology, who have experience in installing, commissioning, programming and diagnosing systems and the relevant fieldbuses.**

### 1.2 Trademarks

All trademarks or brand names including those protected for third parties shall unconditionally be subject to the provisions of the applicable laws governing trademarks and the proprietary rights of the registered owners. All trademarks, brand names or firm names are or may be trademarks or registered trademarks of their respective proprietors and are used only for description and unique identification. All rights not explicitly granted here are reserved. Failure to explicitly identify trademarks used in this manual does not indicate that a name is free from rights of third parties. CompactLogix® is registered trademark of Allen Bradley.

### 1.3 Liability

SIKO GmbH assumes no warranty whatsoever regarding topicality, correctness, completeness or quality of the information or software products provided. All liability claims against SIKO GmbH referring to material or immaterial damages caused by using or not using the information or software provided or by using erroneous or incomplete information or software are always excluded.

## 2 Hardware Setup

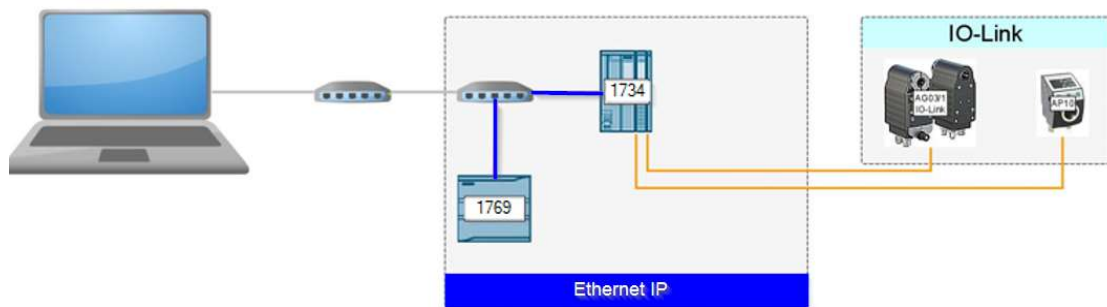


Fig. 1: Used hardware

### 2.1 Components

The 1769 PLC is wired to the power supply. The 1769 is mounted together with the power supply and PLC onto a DIN rail and connected to the power supply unit. The communication between the PLC and the 1734 is realized with EthernetIP. Therefore an Ethernet cable (RJ45 connectors) is plugged into port P2 at the PLC and port P1 at the 1734. The PLC (port P2) is connected via Ethernet cable to the PC. At last the IO-Link master is plugged into the 1734 at slot 1 and terminated with the server module in slot 2. All connections have to be checked before supplying power to the system.

Connect the "AG03/1 48 IP54 KR/12 A IOL2" to the master according to the "Installation Instruction" found on:

[http://www.siko-global.com/p/AG03\\_1](http://www.siko-global.com/p/AG03_1)

Connect the "AP10 IOL 20 II IP53 K" to the master according to the "Installation Instruction" found on:

<http://www.siko-global.com/p/ap10>

### 3 Software Requirements

- Logix Designer Studio 5000 V24.02
- SIKO-AP10-20200623-IODD1.1
- SIKO\_AP10\_IOL\_COM\_RSL5000\_V20.01.00\_1.0.0.L5X
- SIKO\_AP10\_IOL\_CSW\_ABS\_RSL5000\_V20.01.00\_1.0.0.L5X
- SIKO\_IOL\_PRM\_RSL5000\_V20.01.00\_1.0.0.L5X

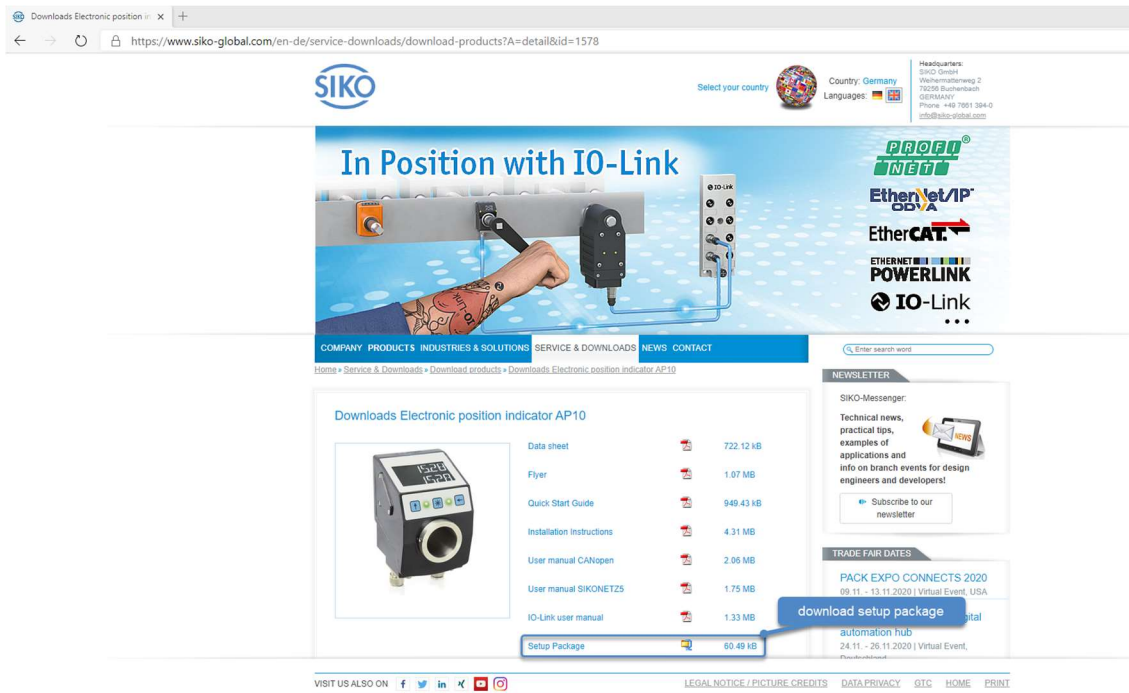


Fig. 2: Download setup package from website

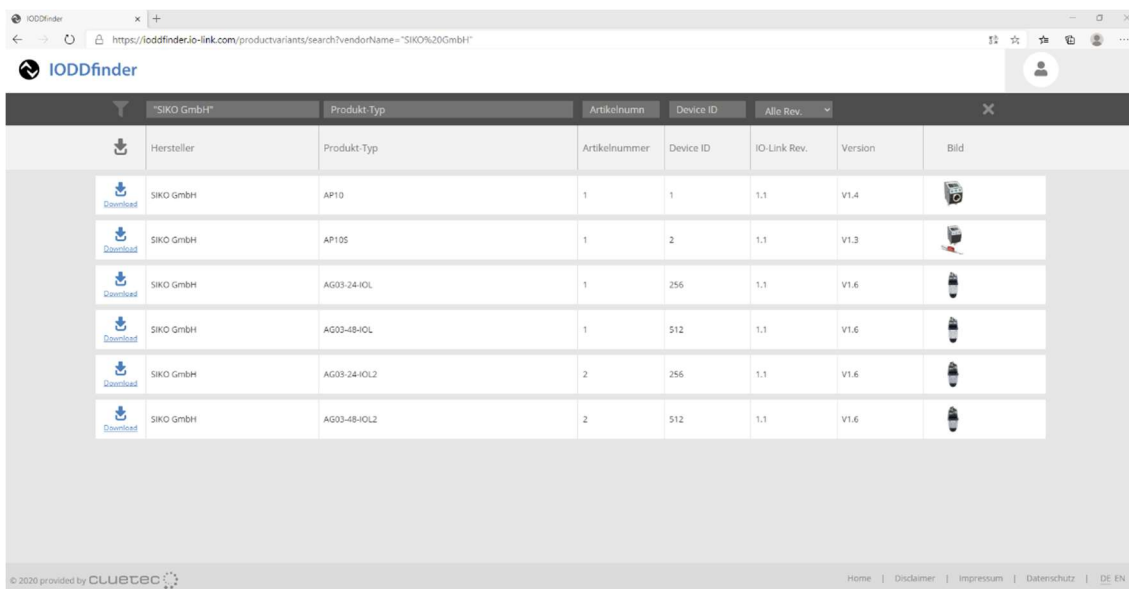


Fig. 3: Download IODD from IODD-finder

## 4 Studio 5000 implementation

The following configuration and program examples are realized with Main Routine. The used languages are Ladder for the Main Routine and ST (Structured Text) for all function blocks.

We show in the following pages the implementation of a SIKO IO-Link device as example with the AP10. Other SIKO IO-Link devices implementation accordingly similar with use of their matching IODD and Add-On Instructions.

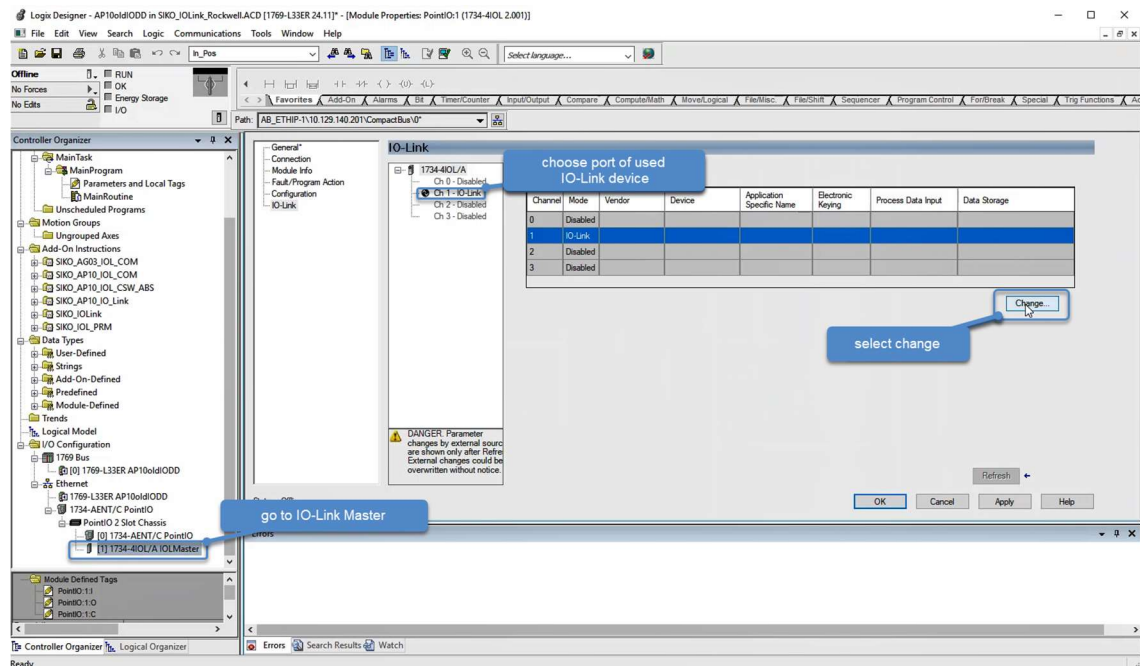


Fig. 4: Change IO-Link device

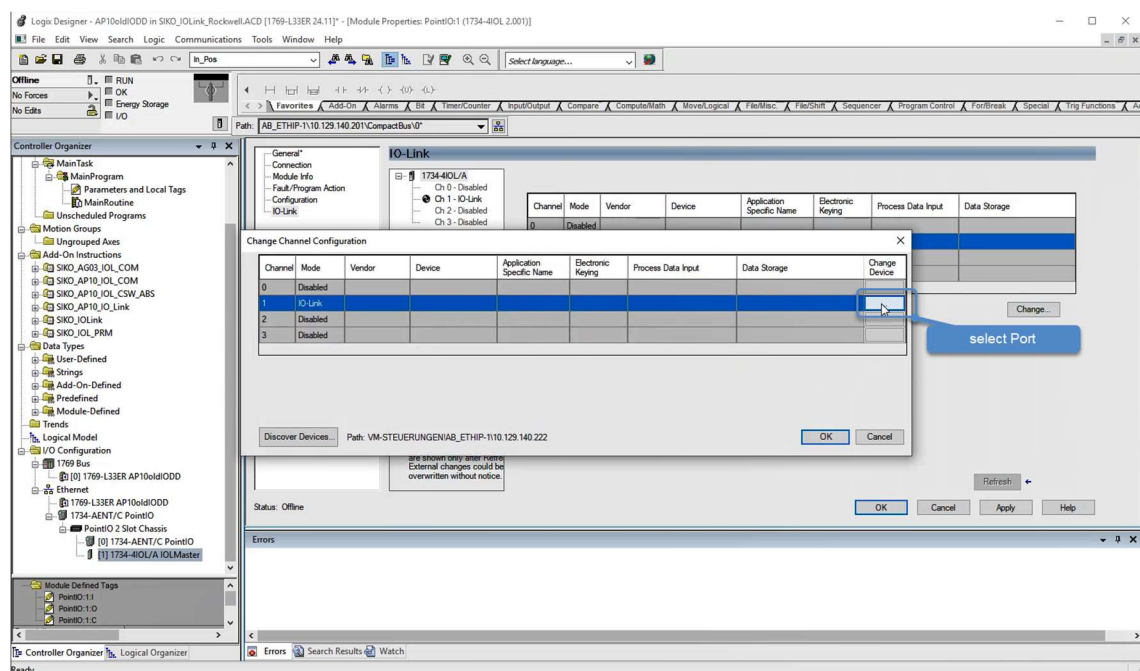


Fig. 5: Select port

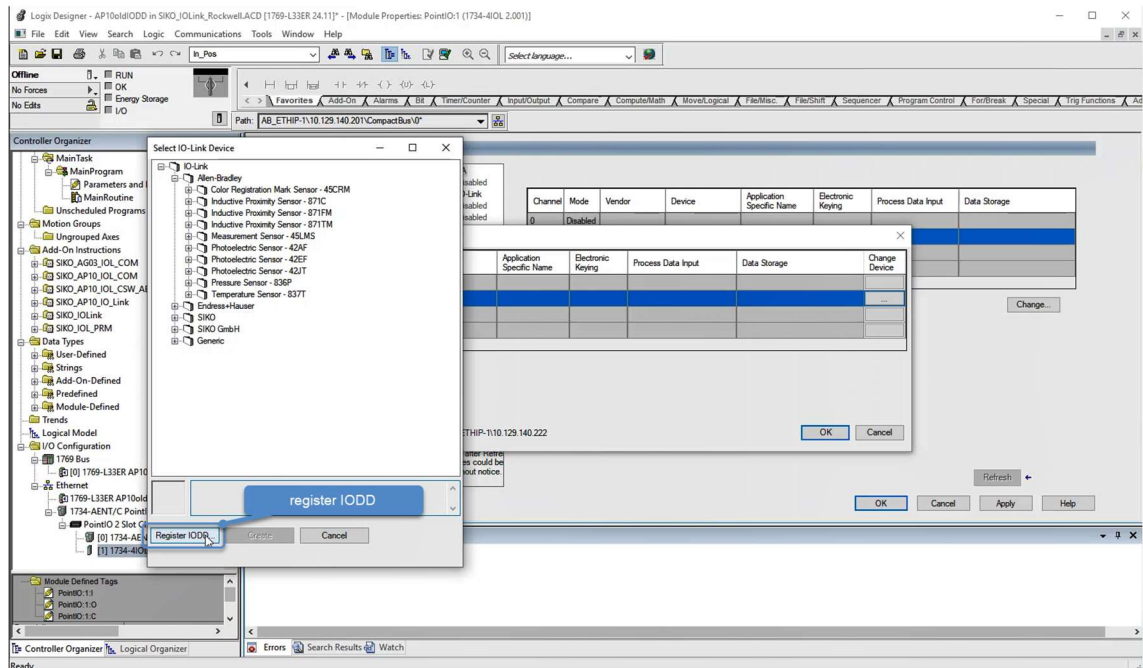


Fig. 6: Register IODD

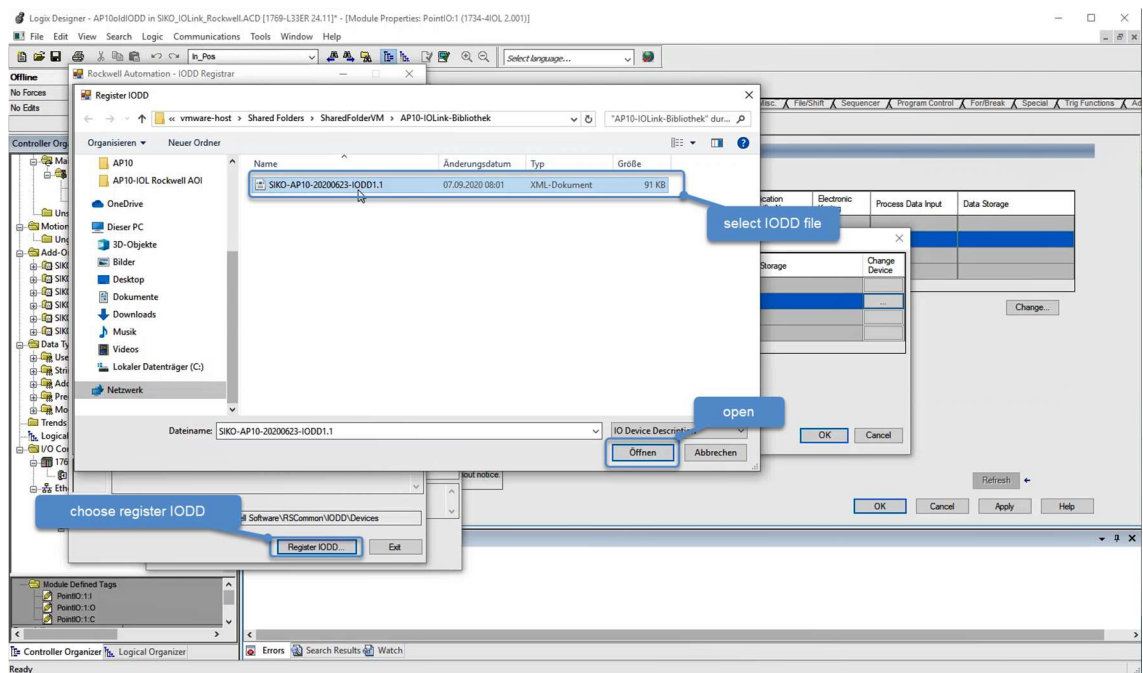


Fig. 7: Select IODD file

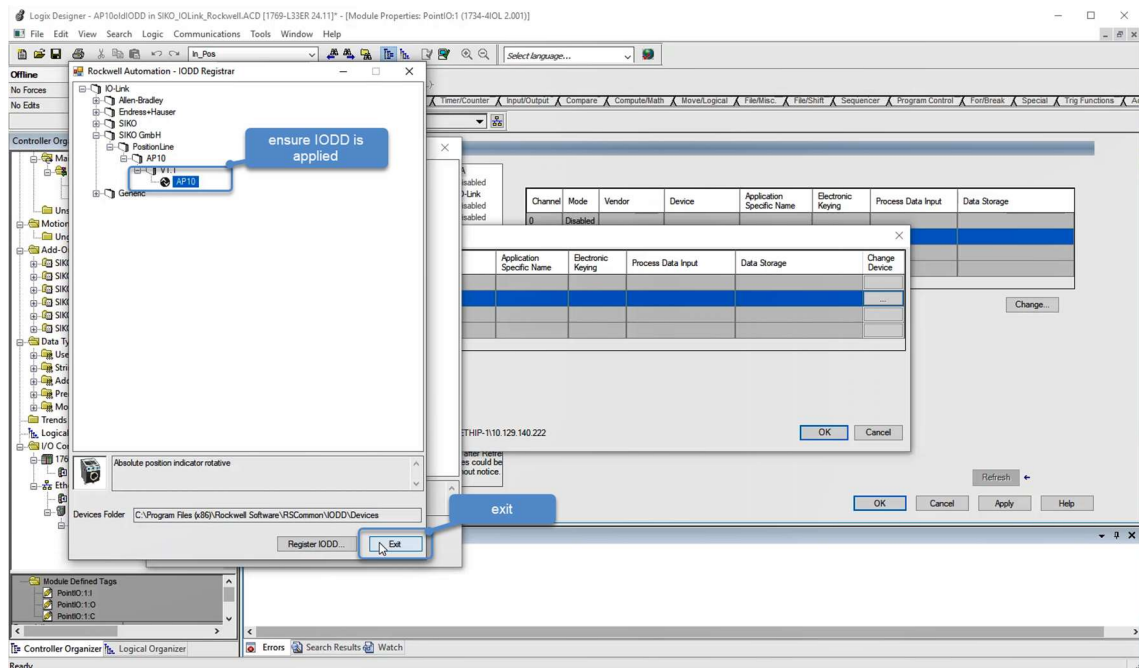


Fig. 8: Double check and exit

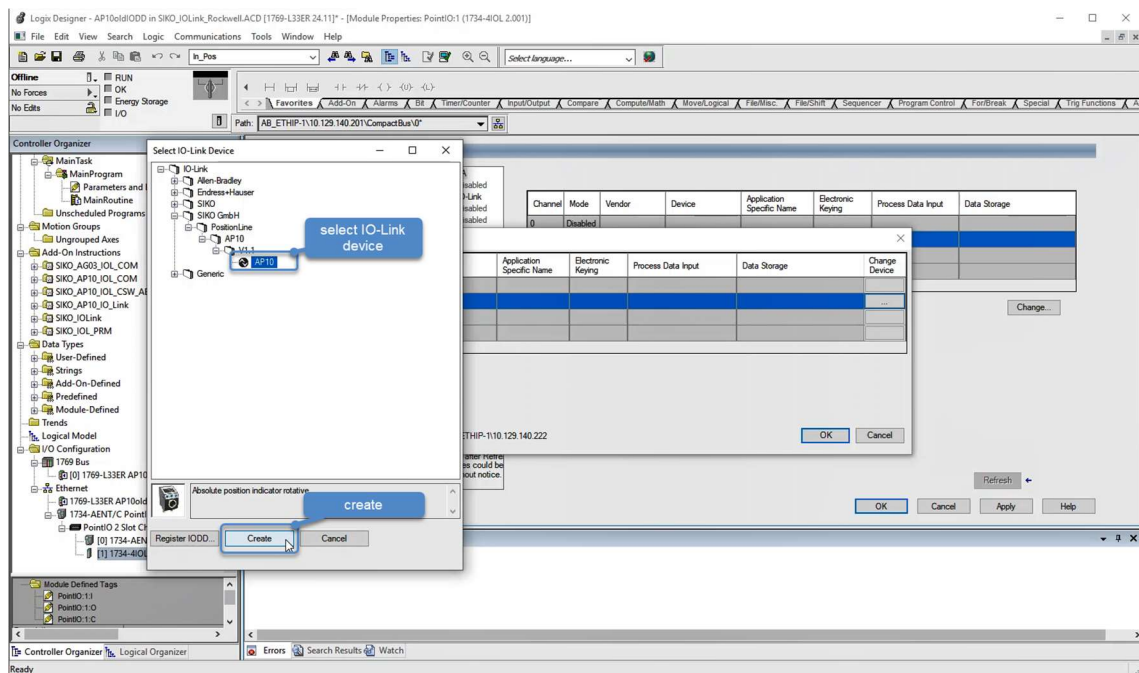


Fig. 9: Select IODD file and create



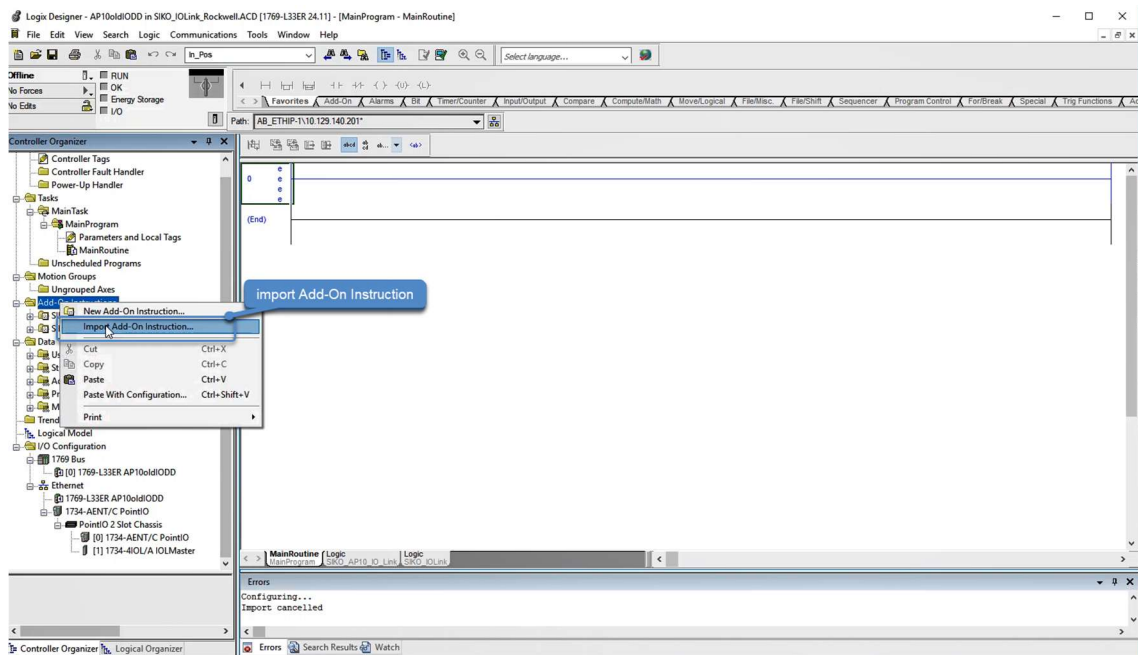


Fig. 10: Import Add-On Instruction

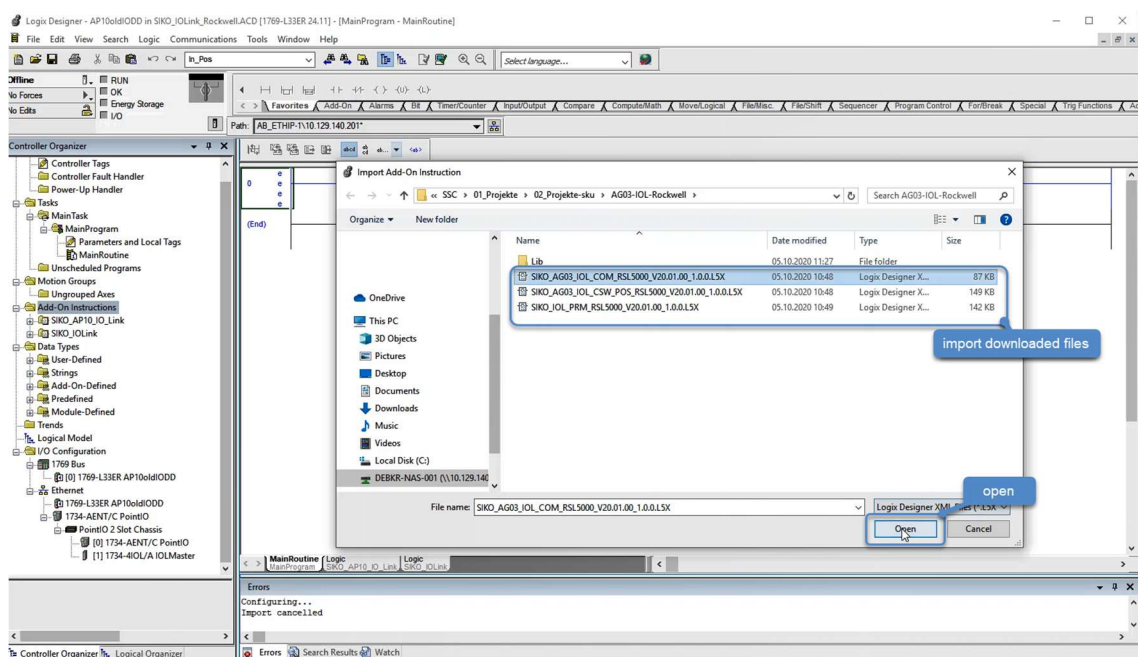


Fig. 11: Choose each file and open

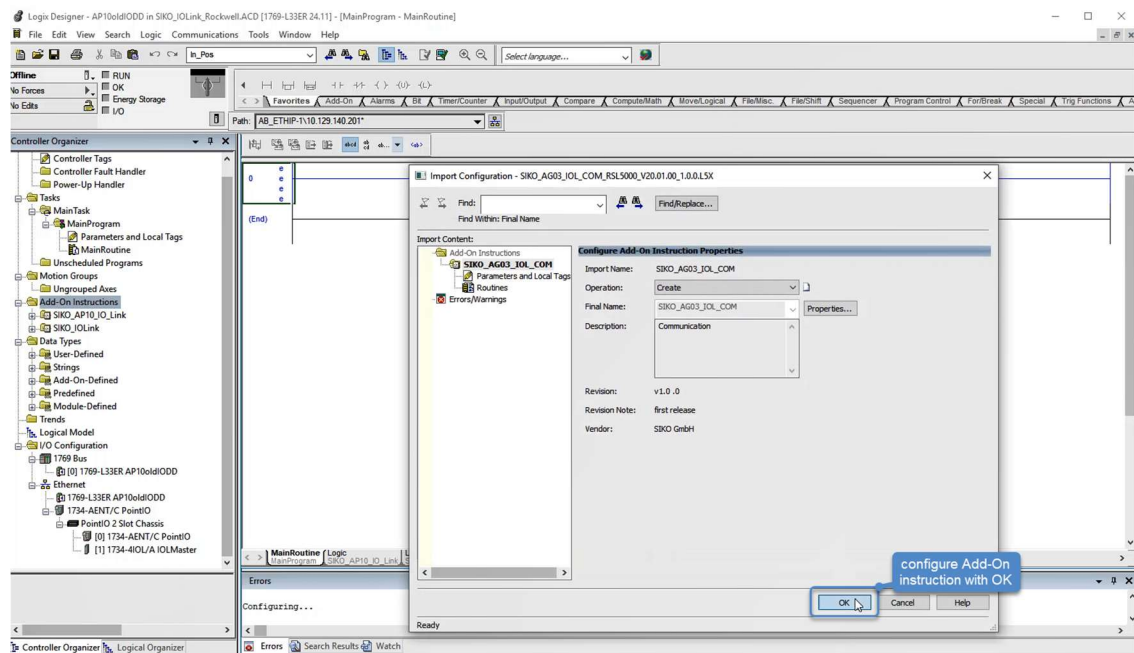


Fig. 12: Create Add-On with OK

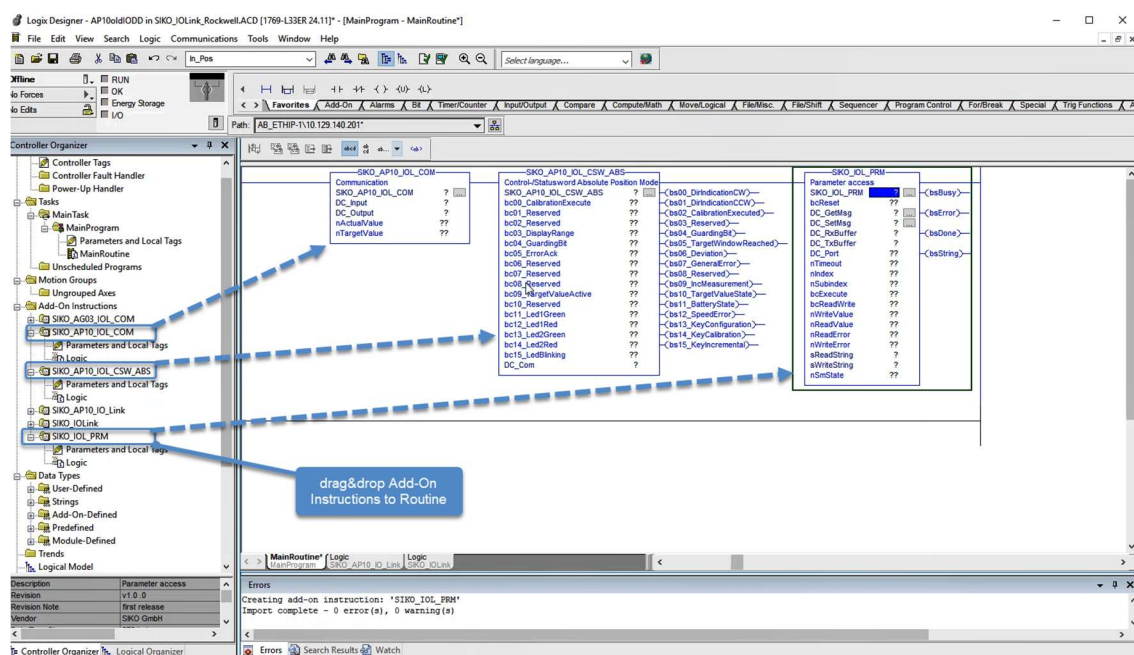


Fig. 13: Drag&drop all created Add-Ons

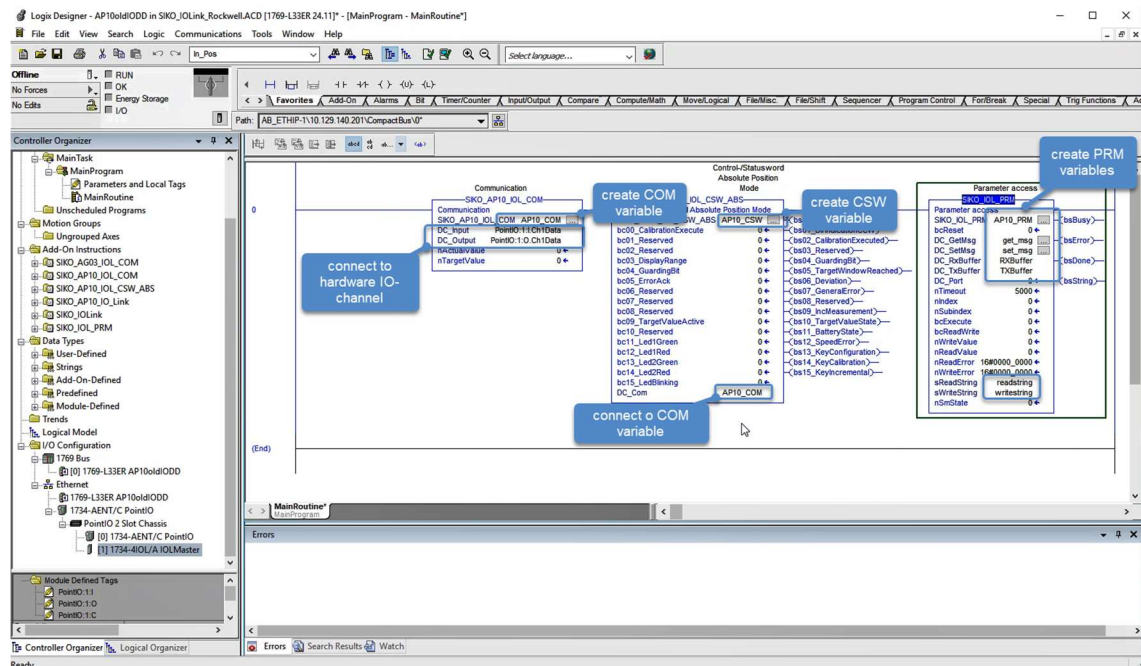


Fig. 14: Create variables and connect IO-channel

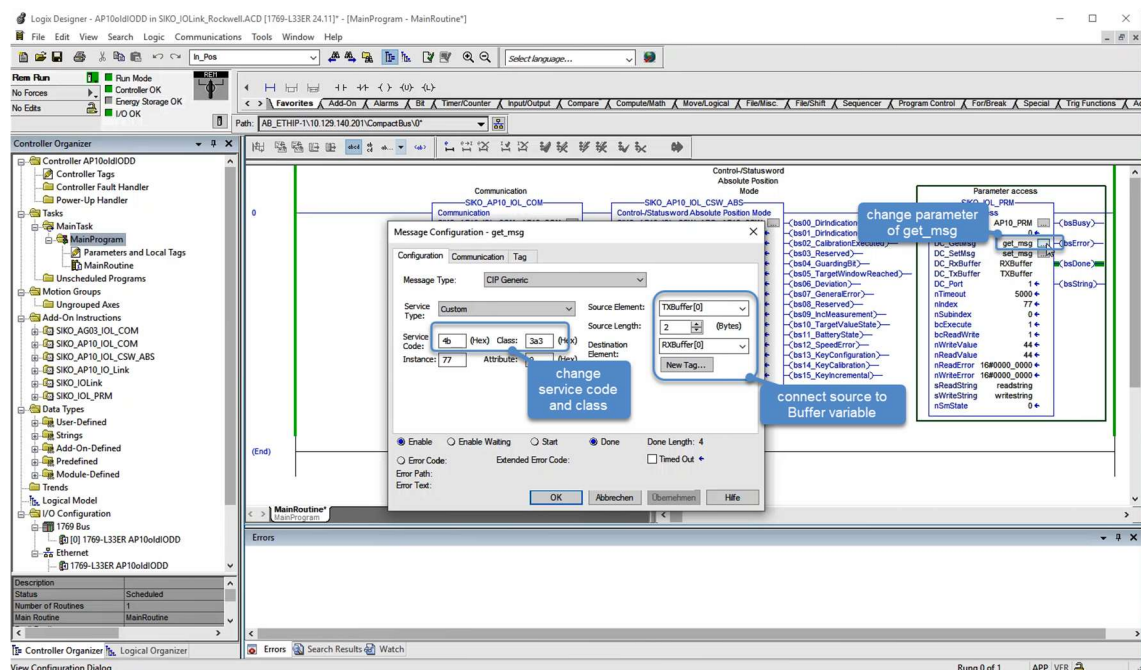


Fig. 15: Change service code and class, choose source element of getmsg

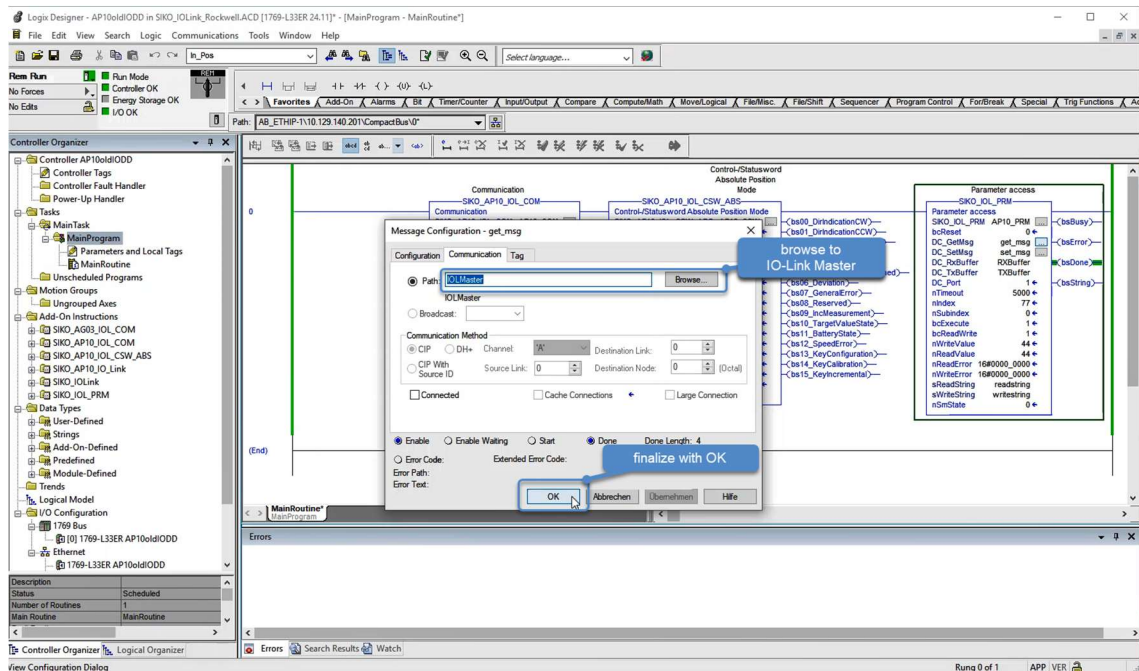


Fig. 16: Select IO-Link Master for Communication

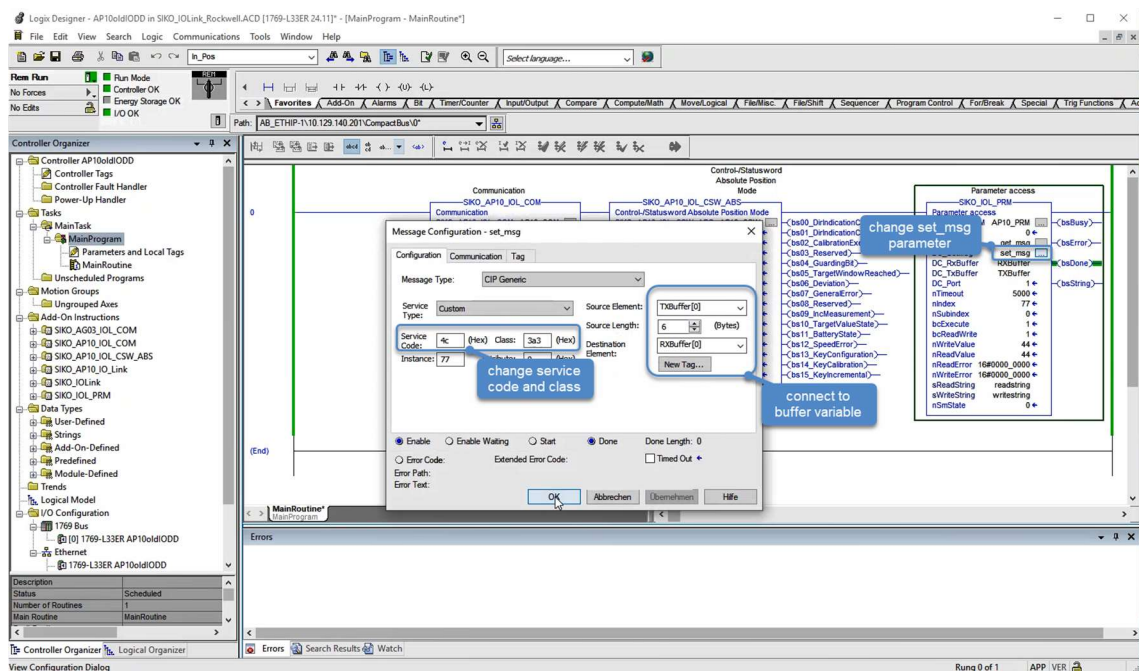


Fig. 17: Change service code and class, choose source element of setmsg



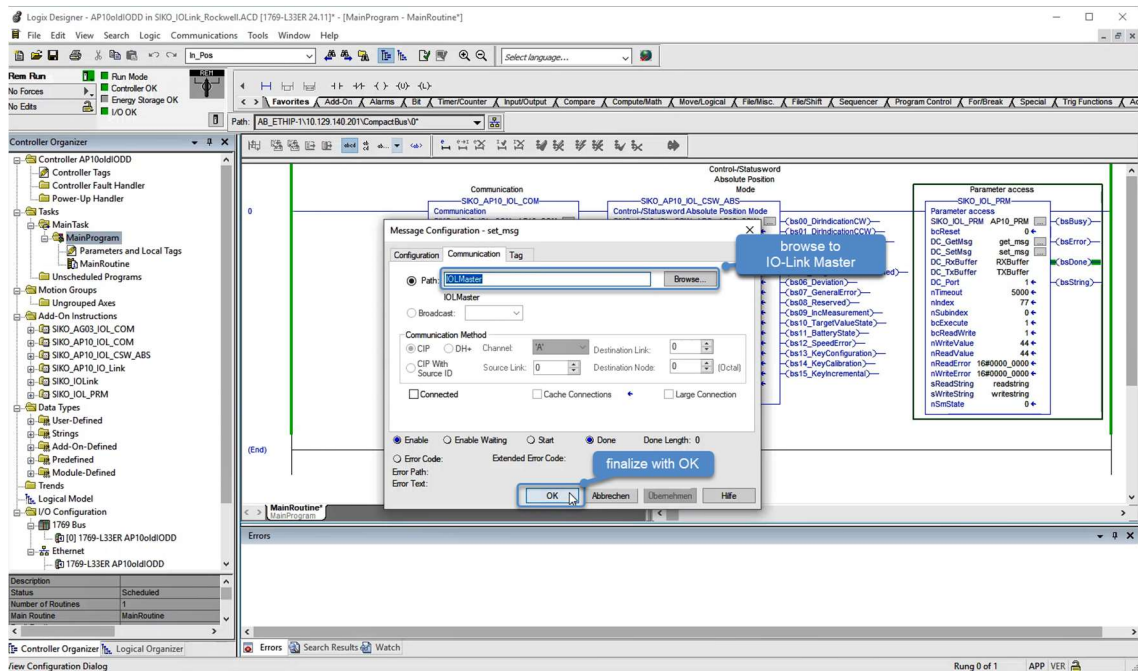


Fig. 18: Select IO-Link Master for Communication

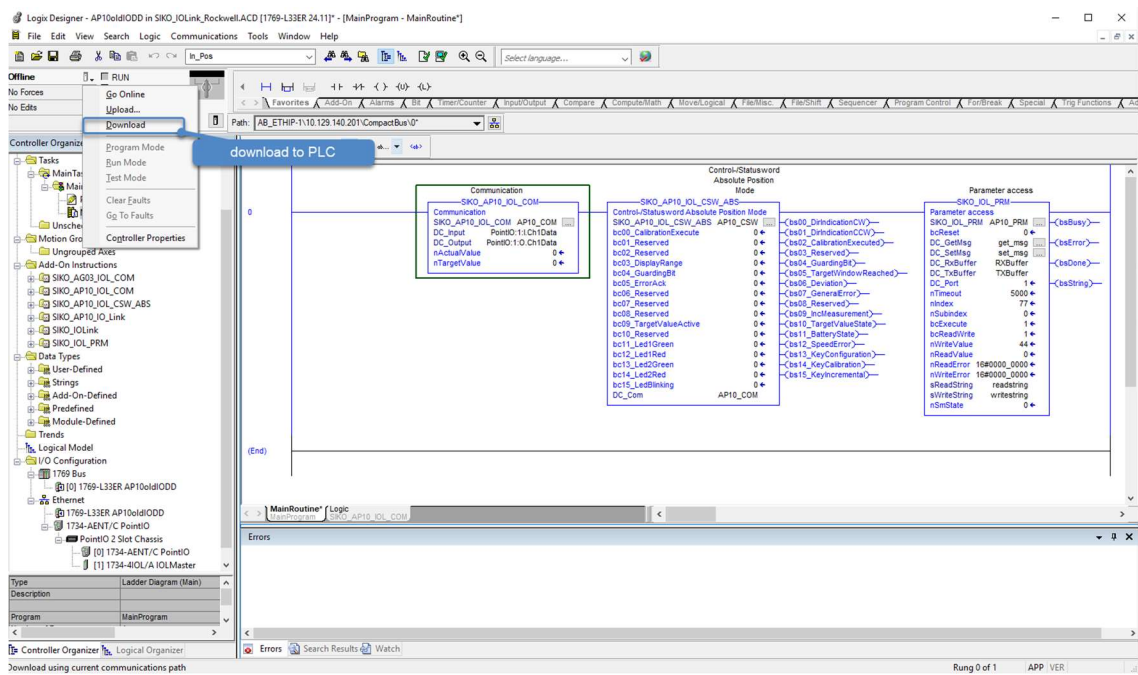


Fig. 19: Download



**SIKO GmbH**

Weihermattenweg 2  
79256 Buchenbach

**Telefon**

+ 49 7661 394-0

**Telefax**

+ 49 7661 394-388

**E-Mail**

[info@siko-global.com](mailto:info@siko-global.com)

**Internet**

[www.siko-global.com](http://www.siko-global.com)

**Service**

[support@siko-global.com](mailto:support@siko-global.com)