INSTALLATION AND OPERATING INSTRUCTIONS

Smart Communication Module
SCM

DDOC00734

THE KNOW-HOW FACTORY

Glossary

Parameter	Explanation
Cmd_Grip	Motion command for gripping the workpiece
Cmd_Release	Motion command for releasing the workpiece
IsReleased	The gripper signals that it is open.
IsGrasped	The gripper has gripped the workpiece and the position is within the taught-in workpiece window.
IsClosed	The gripper has gripped but there is no workpiece, so it is in the maximum position.

Content

EN / 2025-01-22
DDOC00734 / g

1 Supporting documents

NOTICE

Read through the installation and operating instructions before installing or working with the product.

The installation and operating instructions contain important notes for your personal safety. They must be read and understood by all persons who work with or handle the product during any phase of the product lifetime.

The documents listed below are available for download on our website www.zimmer-group.com.

- Installation and operating instructions
- Catalogs, drawings, CAD data, performance data
- Information on accessories
- Technical data sheets
- General Terms and Conditions, including warranty information.

⇨ Only those documents currently available on the website are valid.

In these installation and operating instructions, "product" refers to the product designation on the title page!

1.1 Notices and graphics in the installation and operating instructions

DANGER

This notice warns of an imminent danger to the life and health of people. Ignoring these notices can lead to serious injury or even death.

► You absolutely must comply with the described measures for avoiding these dangers!

⇨ The warning symbols are assigned according to the type of danger.

WARNING

This notice warns of a situation that is potentially hazardous to personal health. Ignoring these notices can cause serious injury or damage to health.

► You absolutely must comply with the described measures for avoiding these dangers!

⇨ The warning symbols are assigned according to the type of danger.

CAUTION

This notice warns of a situation that is potentially hazardous to persons. Ignoring these notices can cause minor, reversible injuries.

► You absolutely must comply with the described measures for avoiding these dangers!

⇨ The warning symbols are assigned according to the type of danger.

NOTICE

This notice warns of possible material and environmental damage. Ignoring these notices can result in damage to the product or the environment.

► You absolutely must comply with the described measures for avoiding these dangers!

⇨ The warning symbols are assigned according to the type of danger.

INFORMATION

This category contains useful tips for handling the product efficiently. Failure to observe these tips will not result in damage to the product. This information does not include any information relevant to health or workplace safety.

2 Safety notices

CAUTION

Risk of injury and material damage in case of non-compliance

Installation, commissioning, maintenance and repairs may only be performed by qualified specialists in accordance with these installation and operating instructions.

The product is state-of-the-art.

Grippers with a control system are used on industrial machines for IO-Link communication.

The following are examples of situations in which the product may cause a hazard:

- The product is not properly installed, used or maintained.
- The product is not used for its designated purpose.
- The locally applicable regulations, laws, directives or guidelines are not observed.

► The product may only be used in accordance with these installation and operating instructions and the product's technical data.

⇨ Zimmer GmbH shall accept no liability for any damage caused by improper use. The operator bears sole responsibility.

3 Proper use

NOTICE

Material damage and malfunction in case of non-compliance

The product is only to be used in its original state with its original accessories, with no unauthorized changes and within the stipulated parameter limits and operating conditions.

Any other or secondary use is deemed improper.

► Operate the product only in compliance with the associated installation and operating instructions.

► Operate the product only when it is in a technical condition that corresponds to the guaranteed parameters and operating conditions.

⇨ Zimmer GmbH shall accept no liability for any damage caused by improper use. The operator bears sole responsibility.

- The product is designed exclusively for electric operation using a 24 V DC power supply.
- Direct contact with perishable goods/food is not permitted.

4 Personnel qualification

WARNING

Inadequate qualification can cause injury and material damage

If inadequately qualified personnel perform work on the product, this can cause serious injuries and significant material damage.

- ▶ All work on the product must be performed by qualified personnel.
- ▶ Before working with the product, read the document in its entirety and make sure that you have understood everything.
- ▶ Observe country-specific accident prevention regulations and the general safety notices.

The following qualifications are a prerequisite for performing various work on the product.

4.1 Electricians

Electricians are able to perform work on electrical systems, can recognize and avoid possible dangers and know the relevant standards and provisions due to their technical training, knowledge and experience.

4.2 Specialists

Specialists are able to perform the assigned work, can recognize and avoid possible dangers and know the relevant standards and provisions due to their technical training, knowledge and experience.

4.3 Instructed personnel

Instructed personnel have been trained by the operating company on the tasks and possible dangers of improper behavior.

4.4 Service personnel

Service personnel are able to perform the assigned work and can recognize and avoid possible dangers due to their technical training, knowledge and experience.

4.5 Additional qualifications

Persons who work with the product must be familiar with the valid safety regulations and laws as well as the standards, guidelines and laws listed in this document.

Personnel who work with the product must have facility-issued authorization to commission, program, configure, operate, maintain and also decommission this product.

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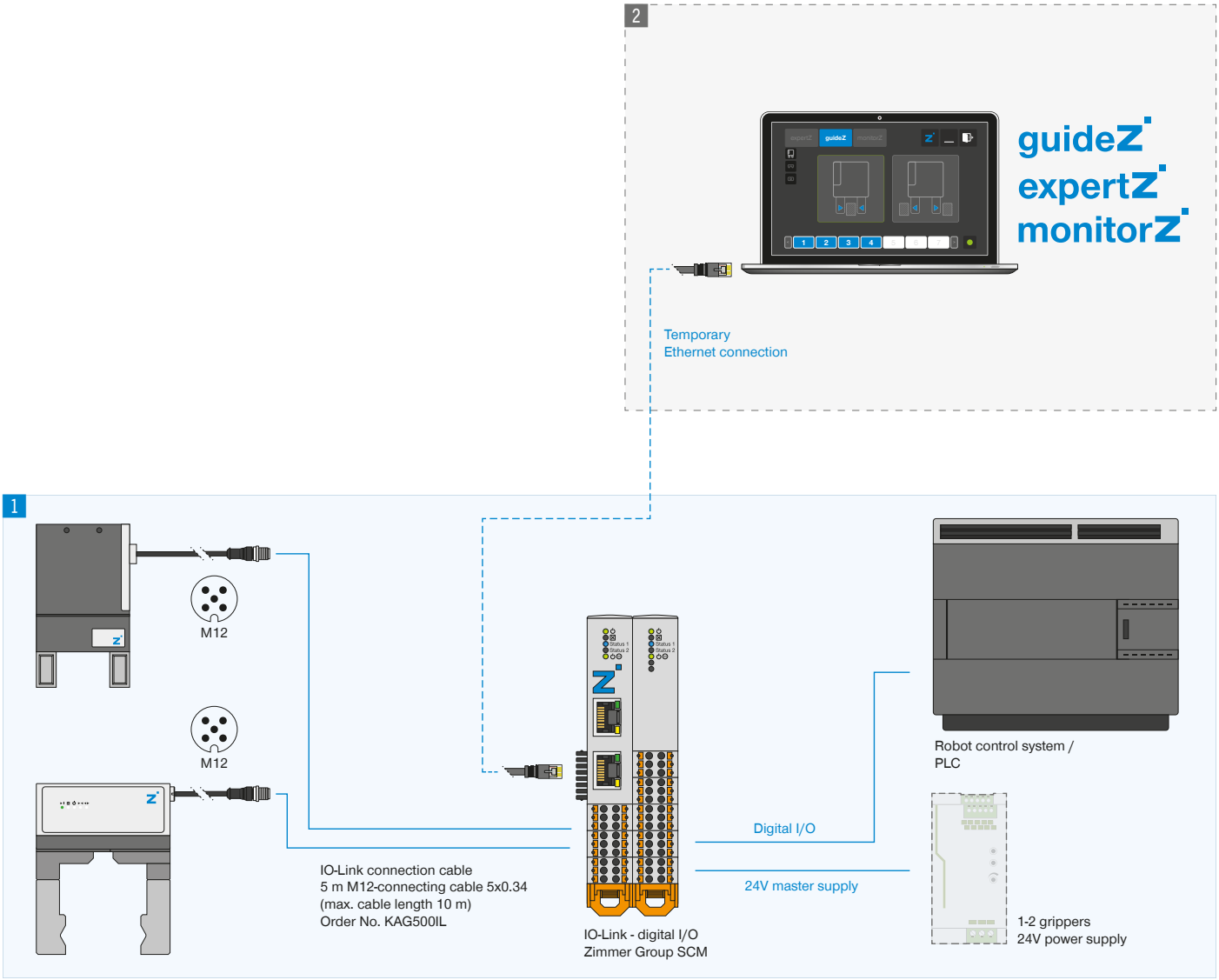
5 Product description

The Smart Communication Module (SCM) is a gateway between the grippers and the robot control system. The SCM is configured via Human Machine Interface (HMI) software.

The image shows a simplified view of the structure of the overall system. All parts for the electrical connection of a gripper with the robot are included or are available from Zimmer GmbH as optional accessories.



6 Functional description

The SCM is the intelligent gateway between the grippers and the robot control system. It is used to easily control up to two grippers. The control connection is provided by 12 robot inputs and outputs.

For this purpose the SCM is initially configured using the HMI software. Once the gripper has been taught, it can then be controlled via the HMI software.

INFORMATION

The Zimmer GmbH SCM must be used for controlling the grippers via the robot control system.

Up to 15 workpieces can be configured and saved for grippers in the SCM setup. The workpiece numbers are available externally via bit coding in the form of digital SCM inputs and SCM outputs.

When using an individual gripper with SCM, the desired workpieces can be selected via the robot input and robot output connection in order to define the correct workpiece bit numbers. By default workpiece 1 is set when there is no robot input connection.

Work piece	Cmd_WP_			
	Bit0	Bit1	Bit2	Bit3
1	0	0	0	0
1	1	0	0	0
2	0	1	0	0
3	1	1	0	0
4	0	0	1	0
5	1	0	1	0
6	0	1	1	0
7	1	1	1	0
8	0	0	0	1
9	1	0	0	1
10	0	1	0	1
11	1	1	0	1
12	0	0	1	1
13	1	0	1	1
14	0	1	1	1
15	1	1	1	1

6.1 LED status display

The LED display is provided on each submodule. The left module with the network sockets is the basic module. The right module with the digital IO is the IO module.

6.1.1 Basic module LED display

Name	Status	Function
⏻	Continuous light	Supply voltage OK
	Flashing	HMI is connected, the SCM is teaching the IO-Link device.
	Flashing	HMI assumes control, the IO module LEDs are off.
	off	Supply voltage not OK
☒	Continuous light	An error is present
	Flashing	There is an external error, see the “Error diagnosis” section.
Status 1/2 (IO-Link device)	off	HMI is connected.
	Continuous light	HMI is disconnected, IO-Link device has an error.
	Flashing	IO-Link device is disconnected.
	Continuous light	HMI is disconnected, IO-LINK device is open or closed at a standstill.
	Continuous light	HMI is disconnected, IO-LINK device is in motion or on the workpiece.
⏻	Continuous light	Actuator voltage OK
(P 24 V)	off	Actuator voltage not OK

6.1.2 IO module LED display

Name	Status	Function
⏻	Continuous light	• Supply voltage OK
	off	• HMI is disconnected, supply voltage is not OK.
		• HMI is connected, supply voltage is OK.
☒	Continuous light	• An error is present
	Flashing	• There is an external error, see the “Error diagnosis” section.
Status 1/2 (IO-Link device)	off	• HMI is connected, the IO module is inactive.
	Continuous light	• Gripper has a motion task in the *release* direction.
	Continuous light	• Gripper has a motion task in the *grasp* direction.
⏻ Ⓜ	Continuous light	• Actuator voltage OK
(P 24 V)	off	• Actuator voltage not OK
-	Inactive	-

7 Technical data

INFORMATION

► You can find the information in the technical data sheet on our website.

This data varies within the series, depending on the specific design.

8 Accessories/scope of delivery

INFORMATION

If any accessories not sold or authorized by Zimmer GmbH are used, the function of the product cannot be guaranteed. Zimmer GmbH accessories are specifically tailored to the individual products.

► For optional accessories and those included in the scope of delivery, refer to our website.

9 Transportation/storage/preservation

► Transport and storage of the product must be done only with the original packaging.

► If the product has already been installed on the superordinate machine unit, care must be taken during transport to ensure that no unexpected movements can occur.

► Before commissioning the product and after transport, check all power and communication connections as well as all mechanical connections.

► Visually inspect all components.

10 Installation

WARNING

Risk of injury due to uncontrolled movements

Risk of injury in case of unexpected movement of the machine or system into which the product is to be installed.

- ► Switch off the energy supply of the machine before any work.
- ► Secure the power supply against being switched on unintentionally.
- ► Check the machine for any residual energy that may be present.

CAUTION

Risk of injury due to uncontrolled movements

Risk of injury in the event of uncontrolled movement of the product when the power supply is connected.

- ► Switch off the power supply to the machine before carrying out any work.
- ► Secure the power supply against being switched on unintentionally.
- ► Check the machine for any residual energy that may be present.

10.1 Installing the product

INFORMATION

- ► For more information, refer to the circuit diagram on our website.

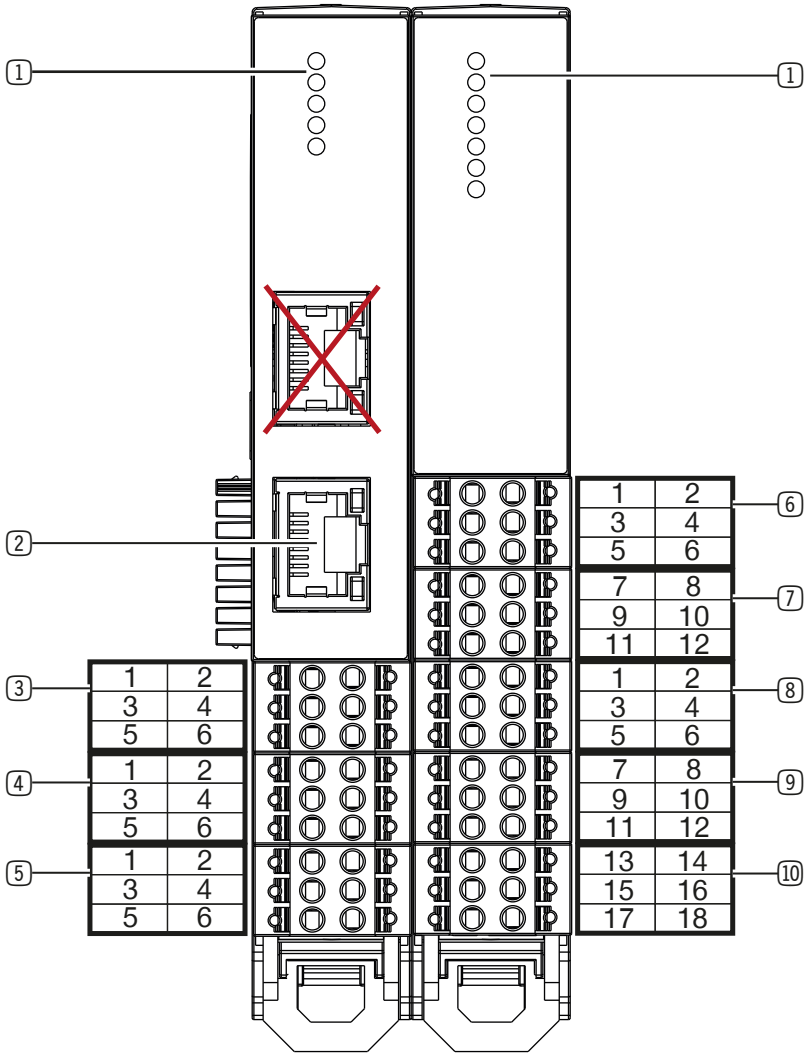
The product is designed for installation on a standard 35 mm-wide profile rail.

The mounting position can be upright on the profile rail or suspended (profile rail mounted in the control cabinet).

- ► Keep a clearance of 5 cm each on the side of the ventilation slots of the product for air circulation.

10.2 Installing the energy supply

10.2.1 Mounting the pin assignment



1. Status
2. Ethernet port
3. IO-Link X1
4. IO-Link X2
5. Power supply of basic module X3
6. Digital input X4
7. Digital input X5
8. Digital output X6
9. Digital output X7
10. Power supply of IO module X8

10.2.2 Installing the power supply for the basic module

► Fuse the product using a suitable circuit breaker in accordance with the expected current draw and the cable cross-sections used.

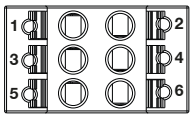
INFORMATION

The signal and actuator voltage is electrically isolated in the product.

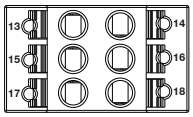
► Connect a maximum load of 10 A to pin 1 and pin 2.

► Connect a maximum load of 500 mA to pin 3 and pin 4.

The maximum permitted current draw allows you to operate all grippers directly on the product. No Y-plug-in connector for a special power supply is required.

Pin	Function	Explanation	Power supply of basic module X3
1	24 V DC actuator	Actuator supply voltage	
2	GND actuator	0 V DC actuator supply voltage	
3	24 V DC input signal	SCM supply voltage and signal voltage for the grippers	
4	GND input signal	SCM ground and signal voltage for the grippers	
5	24 V DC output signal	Signal voltage output for supplying power to the I/O module (connect to pin 17)	
6	GND output signal	GND output for supplying power to the I/O module (connect to pin 18)	

10.2.3 Installing the power supply for the IO module

Pin	Function	Explanation	Power supply of IO module X8
13	-	-	
14	-	-	
15	-	-	
16	-	-	
17	24 V DC	24 V DC supply voltage	
18	GND	0 V DC supply voltage	

10.2.4 Installing IO-Link

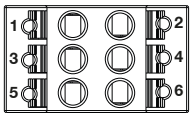
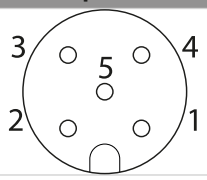
NOTICE

Non-compliance may result in material damage.

If the wiring is done differently, the gripper will be damaged.

If the gripper has an additional STO cable (Safe-Torque-OFF), this is wired with the external safety circuit independently of the SCM.

The pin assignments listed in the table are for both IO-Link channels.

IO-Link X1/IO-Link X2				IO-Link X1/IO-Link X2	M12 5-pin socket	
Pin	**Color**	**Function**	**Explanation**		**Pin**	**Color**
1	Black	C/Q	IO-Link communication		4	Black
2	-	-	-		6	-
3	White	PWR actuator	Actuator supply voltage	**M12 5-pin socket**	2	White
4	Gray	GND actuator	0 V DC actuator supply voltage		5	Gray
5	Brown	24 V DC sensor	Supply voltage of sensor		1	Brown
6	Blue	GND sensor	0 V DC sensor supply voltage		3	Blue

10.2.5 IO assignment for connected gripper (single mode)

Advanced and *Basic* designate different classes of grippers at Zimmer GmbH.

			Port 1 - Advanced_Gripping	Port 1 - Basic_Gripping
IO module pin		**Function**	**Advanced_Gripping**	**Basic_Gripping**
Pin	**Digital input X4**			
1		Input 1	Cmd_Release	Cmd_Release
2		Input 2	Cmd_Grasp	Cmd_Grasp
3		Input 3	Cmd_Reset	Cmd_Reset
4		Input 4	Cmd_MotorOn/Cmd_MotorOff	-
5		Input 5	Cmd_Homing	-
6		Input 6	-	-
Pin	**Digital input X5**			
7		Input 7	-	-
8		Input 8	-	-
9		Input 9	Cmd_WP_Bit0	Cmd_WP_Bit0
10		Input 10	Cmd_WP_Bit1	Cmd_WP_Bit1
11		Input 11	Cmd_WP_Bit2	Cmd_WP_Bit2
12		Input 12	Cmd_WP_Bit3	Cmd_WP_Bit3
Pin	**Digital output X6**			
1		Output 1	IsReleased	IsReleased
2		Output 2	IsGrasped	IsGrasped
3		Output 3	IsClosed	IsClosed
4		Output 4	OnUndefinedPos	OnUndefinedPos
5		Output 5	Error	Error
6		Output 6	MotorOn	-
Pin	**Digital output X7**			
7		Output 7	HomingOk	-
8		Output 8	-	-
9		Output 9	Act_WP_Bit0	Act_WP_Bit0
10		Output 10	Act_WP_Bit1	Act_WP_Bit1
11		Output 11	Act_WP_Bit2	Act_WP_Bit2
12		Output 12	Act_WP_Bit3	Act_WP_Bit3

10.2.6 IO assignment for two connected grippers (dual mode)

Port 2 is used as soon as two grippers are connected. Both ports divide up the available 12 pins for input and output. Therefore, it is no longer possible to actively select a workpiece recipe. In this case, the selection of workpiece recipe number 1 is fixed.

			Port 1 - Basic_ Gripping	Port 1 - Advanced_ Gripping	Port 1 - Advanced_ Gripping	
			Port 2 - Basic_ Gripping	Port 2 - Basic_ Gripping	Port 2 - Advanced_ Gripping	
IO module pin		**Function**	**Basic_Gripping**	**Advanced_Gripping + Basic_Gripping**	**Advanced_Gripping**	
Pin	**Digital input X4**					
1		Input 1	Cmd_Release	Cmd_Release	Cmd_Release	Port 1
2		Input 2	Cmd_Grasp	Cmd_Grasp	Cmd_Grasp	
3		Input 3	Cmd_Reset	Cmd_Reset	Cmd_Reset	
4		Input 4	-	Cmd_MotorOn/Cmd_ MotorOff	Cmd_MotorOn/Cmd_ MotorOff	
5		Input 5	-	Cmd_Homing	Cmd_Homing	
6		Input 6	-	-	-	
Pin	**Digital input X5**					
7		Input 7	Cmd_Release	Cmd_Release	Cmd_Release	Port 2
8		Input 8	Cmd_Grasp	Cmd_Grasp	Cmd_Grasp	
9		Input 9	Cmd_Reset	Cmd_Reset	Cmd_Reset	
10		Input 10	-	-	Cmd_MotorOn/Cmd_ MotorOff	
11		Input 11	-	-	Cmd_Homing	
12		Input 12	-	-	-	
Pin	**Digital output X6**					
1		Output 1	IsReleased	IsReleased	IsReleased	Port 1
2		Output 2	IsGrasped	IsGrasped	IsGrasped	
3		Output 3	IsClosed	IsClosed	IsClosed	
4		Output 4	OnUndefinedPos	OnUndefinedPos	OnUndefinedPos	
5		Output 5	Error	Error	Error	
6		Output 6	-	MotorOn	MotorOn	
Pin	**Digital output X7**					
7		Output 7	-	HomingOk	HomingOk	Port 2
8		Output 8	IsReleased	IsReleased	IsReleased	
9		Output 9	IsGrasped	IsGrasped	IsGrasped	
10		Output 10	IsClosed	IsClosed	IsClosed	
11		Output 11	OnUndefinedPos	OnUndefinedPos	OnUndefinedPos	
12		Output 12	Error	Error	Error	

10.2.7 Connection examples

Minimal requirement for the upstream controller:

- Basic in single mode with 5 DIOs
  - 2x outputs: *Cmd_Release*, *Cmd_Grasp*
  - 3x inputs: *IsReleased*, *IsGrasped*, *IsClosed*
- Advanced in single mode with 7 DIOs
  - 4x outputs: *Cmd_Release*, *Cmd_Grasp*, *Cmd_MotorOn*, *Cmd_Homing*
    If *Cmd_MotorOn* and *Cmd_Homing* are not used, this must be set manually via the motor HMI software and a reference run of the gripper may need to be performed.
  - 3x inputs: *IsReleased*, *IsGrasped*, *IsClosed*

Wiring with 8 DIOs on the robot with a gripper:

- Basic in single mode
  - 3x outputs: *Cmd_Release*, *Cmd_Grasp*, *Cmd_Reset*
  - 5x inputs: *IsReleased*, *IsGrasped*, *IsClosed*, *OnUndefinedPos*, *Error*
- Advanced in single mode
  - 4x outputs: *Cmd_Release*, *Cmd_Grasp*, *Cmd_MotorOn*, *Cmd_Homing*
  - 5x inputs: *IsReleased*, *IsGrasped*, *IsClosed*, *Error*

11 Installation

INFORMATION

► For information, refer to the commissioning instructions for the HMI.

12 Commissioning

INFORMATION

► For information, refer to the commissioning instructions for the HMI.

13 Operation

The gripper is controlled via the digital robot inputs and robot outputs of the external control system.
All commands (SCM outputs) can remain wired with the corresponding level until the command is supposed to change.
Example: *Cmd_Release* can remain TRUE as long as the gripper is supposed to stay at the release position.

NOTICE

► Move the gripper to a standstill before you enter the *Cmd_WP_BitX* command.

Command	Function
Cmd_Release	Open gripper
Cmd_Grasp	Close gripper
Cmd_MotorOn	Switch on the motor control.
Cmd_MotorOFF	Shut off motor.
Cmd_Homing	Start gripper reference run outwards.
Cmd_Reset	Perform a reset in the gripper. The activated workpiece recipe is reloaded. If no workpiece has been loaded, the workpiece recipe for workpiece 1 is loaded automatically. Because the Cmd_Reset command has no feedback signal, this requires a slight delay time to run provided that no Comfort App is being used: • Set Cmd_Reset = TRUE • Wait 0.2 s • Set Cmd_Reset = FALSE • Wait 0.2 s
Cmd_WP_Bit0	Activate the saved workpiece recipe in the product.
Cmd_WP_Bit1	Activate the saved workpiece recipe in the product.
Cmd_WP_Bit2	Activate the saved workpiece recipe in the product.
Cmd_WP_Bit3	Activate the saved workpiece recipe in the product.
Act_WP_Bit0	Feedback signal as soon as the workpiece recipe is active
Act_WP_Bit1	Feedback signal as soon as the workpiece recipe is active
Act_WP_Bit2	Feedback signal as soon as the workpiece recipe is active
Act_WP_Bit3	Feedback signal as soon as the workpiece recipe is active
IsReleased	Feedback signal of the gripper for the control system
IsGrasped	Feedback signal of the gripper for the control system
IsClosed	Feedback signal of the gripper for the control system

INFORMATION

After a cold start, the SCM starts without HMI software, first with the primacy of the input and output signals with the last saved configuration.

► Please contact Customer Service if you have any questions.

► After configuration, close the HMI software.

► Disconnect the Windows PC via the network cable.

⇨ The product and connected grippers are now functional with the control system.

13.1 Selecting and changing workpiece recipes

The workpiece recipes taught in SCM are selected from the robot control system using the SCM inputs 9 to 12.

► Create a binary number from these four SCM inputs.

⇨ This is the selected workpiece recipe number: Input 9 stands for 2^0 and input 12 stands for 2^3.

Input 9	Input 10	Input 11	Input 12	Workpiece recipe number
TRUE	FALSE	FALSE	TRUE	9
TRUE	TRUE	FALSE	FALSE	3

► Do not execute any other commands.

⇨ The gripper may not display any errors.

⇨ The successful implementation of the new workpiece recipe is displayed in SCM: SCM outputs 9 to 12 accept the same logical status as the SCM inputs 9 to 12.

Workpiece recipe number 3 sequence example:

- Set Cmd_WP_Bit0 = TRUE
- Set Cmd_WP_Bit1 = TRUE
- Wait (Act_WP_Bit0 == TRUE & Act_WP_Bit1 == TRUE)

⇨ Then you can re-open or re-close the gripper.

13.2 Assignment of input and output signals after a cold start

The SCM only accepts commands from one source. The grippers can either be controlled by the HMI software or via the superordinate Robot control system.

After a cold start, the SCM starts without HMI software, first with the primacy of the input and output signals with the last saved configuration.

Therefore, the HMI software can be closed after a successful configuration and the Windows PC can be disconnected via the network cable. The SCM and the connected grippers are now only operational with the robot control system and retain this configuration even after a cold start.

14 Error diagnosis

INFORMATION

- ▶ More information can be found in the installation and operating instructions of the gripper.
- ▶ Please contact Customer Service if you have any questions.

15 Resetting to factory settings

NOTICE

When a reset to factory settings is performed, all saved information is deleted.

- ▶ Disconnect the voltage supply.
- ▶ Create a jumper between IO-Link X1 pin 1 (C/Q1) and IO-Link X2 pin 1 (C/Q2).
- ▶ Reconnect the voltage supply.
- ⇨ The SCM initializes and resets the settings.
- ▶ Disconnect the voltage supply.
- ▶ Remove the jumper.

16 Decommissioning/disposal

INFORMATION

When the product reaches the end of its operational phase, it can be completely disassembled and disposed of.

- ▶ Disconnect the product completely from the power supply.
- ▶ Dispose of the components properly according to the material groups.
- ▶ Comply with the locally applicable environmental and disposal regulations.

17 RoHS declaration

in terms of the EU Regulation 2011/65/EU

Name and address of the manufacturer:

Zimmer GmbH

Im Salmenkopf
77866 Rheinau, Germany
+49 7844 9138 0
info@zimmer-group.com
www.zimmer-group.com

We hereby declare that the incomplete machine described below

Product designation: Smart Communication Module

Type designation: SCM

conforms to the requirements of the directive in its design and the version we put on the market.

Michael Hoch	Rheinau, Germany, 2020-02-28	
Authorized representative for the compilation of relevant technical documents	(Place and date of issuance)	Martin Zimmer (Legally binding signature) Managing Partner

18 Declaration of Conformity

As defined by the EC Directive 2014/30/EU on electromagnetic compatibility

Name and address of the manufacturer:

Zimmer GmbH

Im Salmenkopf
77866 Rheinau, Germany
+49 7844 9138 0
info@zimmer-group.com
www.zimmer-group.com

We hereby declare that the product described below

Product designation:	Smart Communication Module
Type designation:	SCM

conforms to the requirements of the Electromagnetic Compatibility Directive 2014/30/EU in its design and the version we put on the market.

The following harmonized standards have been used:

DIN EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN 61000-6-3	EMC Generic standard, Emission standard for residential, commercial and light-industrial
DIN EN 61000-6-2	EMC Generic standard, Emission standard for industrial environments
DIN EN 61000-6-4	EMC Generic standard, Immunity for industrial environments

A full list of applied standards can be obtained from the manufacturer.

Kurt Ross	Rheinau, Germany, 2020-02-28	
Authorized representative for the compilation of relevant technical documents	(Place and date of issuance)	Martin Zimmer (Legally binding signature) Managing Partner

19 Declaration of Conformity

In terms of the EU Directive 2014/35/EU (Low voltage directive)

Name and address of the manufacturer:

Zimmer GmbH

Im Salmenkopf
77866 Rheinau, Germany
+49 7844 9138 0
info@zimmer-group.com
www.zimmer-group.com

We hereby declare that the product described below

Product designation:	Smart Communication Module
Type designation:	SCM

conforms to the requirements of the 2014/35/EC directive in its design and the version we put on the market.

The following harmonized standards have been used:

DIN EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN 60204-1	Safety of machinery – Electrical equipment of machines - Part 1: General requirements

A full list of applied standards can be obtained from the manufacturer.

Kurt Ross	Rheinau, Germany, 2020-02-28	
Authorized representative for the compilation of relevant technical documents	(Place and date of issuance)	Martin Zimmer (Legally binding signature) Managing Partner