

We don't make the conveyor.

**We make
it smart.**

Motor Rollers

Geared Drives

Controls

Transfer Units

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Intelligent
Performance.

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This is Pulse- roller.

The best of
three brands.

A decorative graphic in the bottom right corner consisting of three parallel diagonal lines. The top line is orange, the middle line is white, and the bottom line is blue. They all slope downwards from left to right.



Founded in 1950 as a privately owned company, Kyowa is a premium manufacturer of gears, shafts, gearbox assemblies and special machine parts. Now in its second generation of management, Kyowa has extensive experience in gear design and the manufacture and design of materials for the automotive industry. Kawasaki and Kubota are just two of many long-term satisfied customers.

In 1970, Kyowa began manufacturing AC drum motor conveyor belt drives for the material handling industry and later developed its first DC brushless motorised roller.

In the late 1990s, major projects using Kyowa products were installed nationwide in the US Postal Service and other facilities in Japan and Asia. Today, Kyowa is one of the world's leading manufacturers of AC motorised drums and DC motorised rollers for the material handling industry.

Industrial Software was originally founded in 1991. Right from the start Industrial Software was dedicated to high end industrial controls. It wasn't long before they embarked on their first major projects in the Bulgarian petrochemical industry where they developed and installed inhouse PLCs with distributed I/O. This equipment is still in operation today.

By developing the first generation of ConveyLinx controllers and applying Ethernet for motor rollers, Industrial Software have accumulated a mass of experience and knowhow and is well ahead of state-of-the-art technology. Developing advanced intelligence for "Ai marked" Pulseroller products is a significant leap forward. Industrial Software is built around the philosophy of in-house development without any external development partners.

Insight Automation was founded in 2000 by two US conveyor experts as a hardware and software supplier for the conveyor industry. Following the philosophy "We don't make the conveyor; we make it smart," Right from the start, Insight Automation focused on controllers and drive components. Today, Insight Automation is Pulseroller's sales, marketing, product development and test organization for the northern and southern american market with high competence in specialised conveyor software applications. Insight Automation is located close to Kyowa USA, the US manufacturing facility.

Pulseroller's structure and history forms an extraordinarily strong global team promoting reliable and high-end conveyor technology worldwide.

Compo
for adv
intra log

Components
Advanced
Logistics.



Motor Rollers

Find the perfect solution
for every challenge.



Product Overview

Senergy-Ai 24V | 48V



Our reliable Motor Roller with M8-4Pin connection.

Senergy-JST-B 24V



Our Motor Roller for applications requiring a holding brake with JST-9Pin connection.

Senergy-IDC



Our Motor Roller with integrated commutation electronics for applications using third-party controls with 5Pin connection.

Holding Brake Roller



Our mechanical Holding Brake Roller for incline and decline without a motor and M8-4Pin connection.

Pallet-Ai 24V



Our Motor Roller especially designed for pallet transport with M8-4Pin connection.

Senergy-Ai

24V



The ingenious motor roller.

The Senergy-Ai 24V from Pulseroller is the standard motorized roller for all 24V conveyor applications.

It offers you reliability, solid mechanical design and the opportunity to control your motor roller with the Pulseroller control of your choice. Due to different configurations and requirements, there is a suitable control for every configuration.

Senergy-Ai is a motorised driven conveyor roller. It has an integrated 24V DC brushless motor with planetary gearbox which provides a most powerful and dynamic solution for the most demanding applications in any intralogistics conveyor installation. Based on a self-contained design, Senergy-Ai offers an incredibly quiet, highly efficient and maintenance free drive unit.

With a long stack high torque motor, Senergy-Ai has a significant high startup torque which is especially useful for roller curves, accumulation sectors and other critical applications. The additional torque offers an excellent advantage for conveyors starting up under load. The robust planetary gear box easily handles the specified torque and is designed for long life operation.

Senergy-Ai is the first external commutated motor roller which is connected to its controller by a reliable and proven M8 standard connector. Hall-Effect signals are coded inside the motor by a Microcontroller, which makes it possible to communicate through only one pin to our external motor controller. Motor temperature is monitored inside the motor and transmitted to the external controller which ensures that the motor temperature does not reach critical limits. Real time temperature measurements have significant benefit over heat detection models because it also takes environmental conditions into consideration.

Serial number, article number and manufacturing date are stored on the internal memory for later retrieval by the external controller.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Option for precise positioning**
- **Excellent life expectancy**
- **High overload capacity**
- **High acceleration torque**

Features

- **Brushless 24V DC motor**
- **External motor controller**
- **M8-4Pin standard connector**
- **Internal data memory**
- **IP54/IP66/IP69K**
- **Remote control versatility and diagnostics**



M8-4Pin standard connector



M8-4Pin standard connector on ConveyLinx



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output (mech.):** 50W
- **Protection Class:** IP54/IP66/IP69K
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A | BOOST-8: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A | BOOST-8: 8,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -30°C – 0°C (Freezer) | -10°C – +40°C (Standard)
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, Freezer, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm
ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg	25 kg	17 kg	12 kg	9 kg	7 kg

Characteristics Data Eco-Mode and Boost-Mode

Speed Code	Gearbox	Max. Speed m/s*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
15	3-stage	0,34	0,25	2,7	4,86	4,46	8,02
20		0,46	0,33	1,98	3,56	3,27	5,88
25		0,56	0,42	1,62	2,92	2,67	4,81
35	2-stage	0,83	0,58	1,2	2,16	1,98	3,56
45		1,01	0,75	1,0	1,8	1,65	2,97
60		1,38	1,0	0,73	1,32	1,21	2,18
75		1,69	1,25	0,6	1,08	0,99	1,78
95	1-stage	2,23	1,58	0,52	0,93	0,86	1,54
125		3,04	2,08	0,37	0,67	0,61	1,1
175		4,1	2,92	0,27	0,48	0,44	0,79
215		5,1	3,58	0,22	0,4	0,37	0,66

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Roller Weight Senergy-Ai

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)												
		300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
ø 50mm	15, 20, 25	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4	4,6	4,7
	35, 45, 60, 75	2,4	2,6	2,8	3,0	3,1	3,3	3,5	3,7	3,9	4,0	4,2	4,4	4,6
	95, 125, 175, 215	2,2	2,4	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

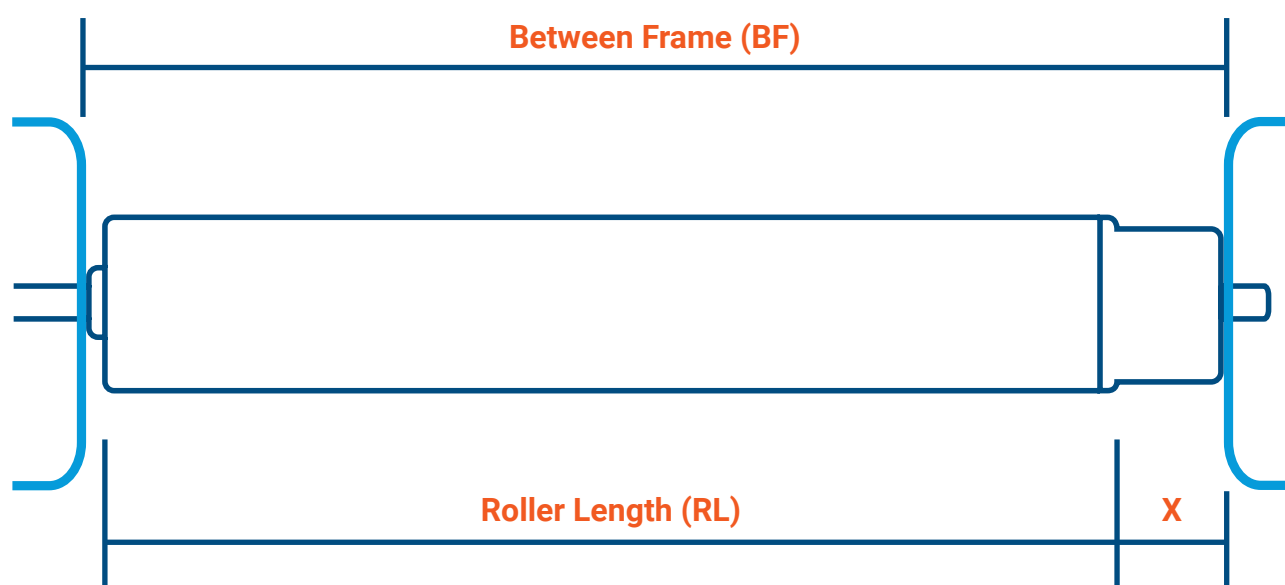
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: $BF = RL + X$



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Senergy-Ai

48V

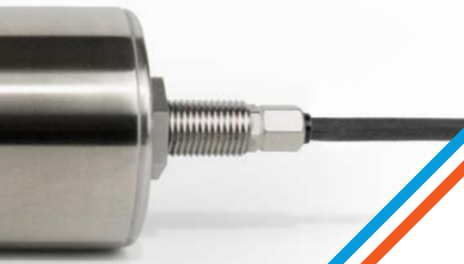


Double the voltage and achieve many benefits.

The Senergy-Ai 48V from Pulseroller is the standard motorized roller for all 48V conveyor applications. It offers you the same reliability, solid mechanical design as our 24V motor roller with a stronger electrical motor and the opportunity to control your motor roller with the Pulseroller 48V control of your choice. Due to different configurations and requirements, there is a suitable control for every configuration.



M8-4Pin standard connector



The 48V concept is available for Senergy motor rollers and PGD-Ai geared drives.

Benefits

- Reliable mechanical design
- Error-Free gearbox design
- Option for precise positioning
- Excellent life expectancy
- Excellent acceleration of heavy goods
- Precise and smooth acceleration
- Less power supplies needed

Features

- Brushless 48V DC motor
- External motor controller
- M8-4Pin standard connector
- Internal data memory
- Longer cables feasible
- IP54/IP66/IP69K
- Remote control versatility and diagnostics

An inherent structural overdesign of all mechanical components results in unparalleled robustness and durability. This provides the basis for maximum system availability and minimum downtime.

Combined with the ConveyLinux Ai3-FC 48V network controller, the result is an unrivalled drive system capable of meeting any conveyor challenge.

The use of 48V as supply voltage results in clear advantages compared to 24V:

- Significantly increased torque of the drive giving stronger acceleration of heavy goods and higher throughput.
- More precise and smooth acceleration due to high power output, allowing better controllability of the drive when positioning and braking.
- Halving the current in the power supply cables allows significantly longer cables from the power supply unit to the individual motorised rollers and thus more flexibility in the cabling.
- Reduction in the number of power supplies in a system means savings in procurement, cabling and installation.

General Technical Data

- **Voltage:** 48V DC
- **Nominal Output (mech.):** Up to 60W
- **Protection Class:** IP54/IP66/IP69K
- **Rated Current:** 1,7A
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -30°C – 0°C (Freezer) | -10°C – +40°C (Standard)
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, Freezer, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm
∅ 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg	25 kg	17 kg	12 kg	9 kg	7 kg

Basic Characteristics Data Senergy-Ai 48V

Speed Code	Gearbox	Gear Ratio	Max. Speed m/s*	Torque (in Nm)					Holding Torque (Nm)	Output (W) @ 20°C	Current (A)	Current (A)	
				Rated Torque (Nm)	Acceleration Torque @ Limitation					Perma- nent	Rated Current	Max. Current	
					1,7 A	2,0 A	2,5 A	3,5 A					4,0 A
15	3-stage	45:1	0,41	3,23	4,58	4,91	5,72	7,36	8,12	7,94	52W	1,7A	4,0A
20		33:1	0,56	2,37	3,36	3,60	4,19	5,40	5,96	5,82			
25		27:1	0,68	1,94	2,75	2,95	3,43	4,42	4,87	4,76			
35	2-stage	18:1	1,00	1,51	1,86	2,00	2,33	2,99	3,30	3,10	60W	1,7A	4,0A
45		15:1	1,22	1,23	1,53	1,64	1,91	2,45	2,71	2,54			
60		11:1	1,67	0,90	1,12	1,20	1,40	1,80	1,99	1,86			

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Advanced Characteristics Data Senergy-Ai 48V

Gearbox	Gear Ratio	Output (W) @ 20°C	Derating (%/K)	Overload
3-stage	45:1	52W	-0,84%	252%
	33:1			
	27:1			
2-stage	18:1	60W	-0,66%	218%
	15:1			
	11:1			

Roller Weight Senergy-Ai 48V

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)												
		300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
Ø 50mm	15, 20, 25	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4	4,6	4,7
	35, 45, 60	2,4	2,6	2,8	3,0	3,1	3,3	3,5	3,7	3,9	4,0	4,2	4,4	4,6

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

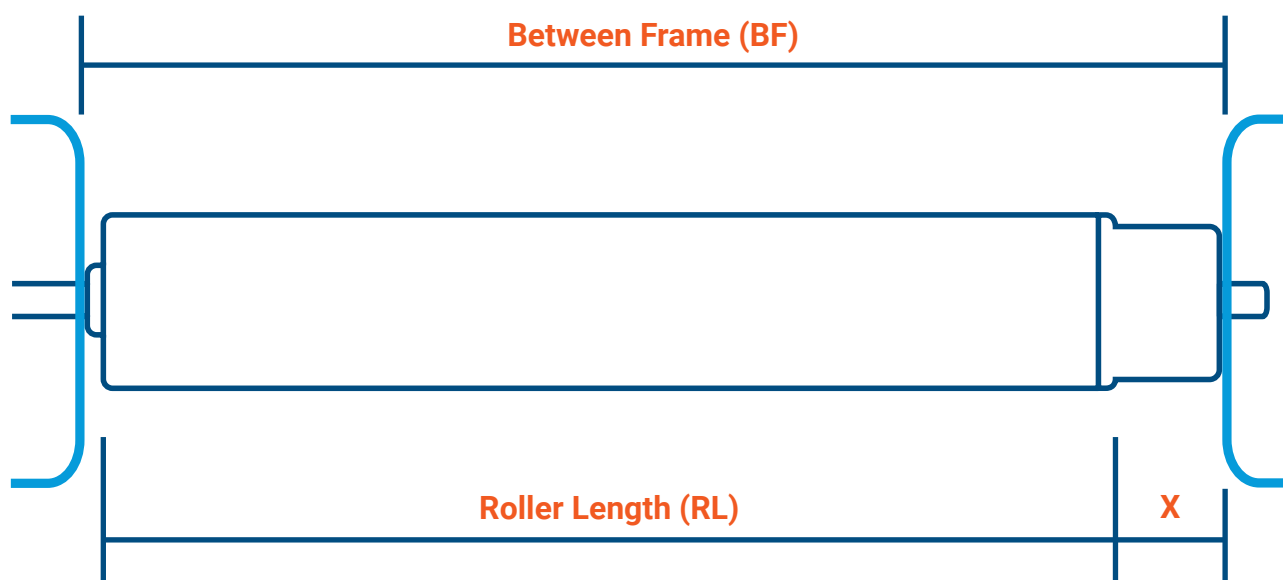
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: $BF = RL + X$



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Senergy

JST (-B)



Senergy-JST-B is a motorised roller with an integrated brushless 24V DC motor and an internal spring-loaded electro-magnetic brake. Under normal running conditions, the brake will be disengaged (held open by its electro-magnet). When the motor is switched off, the brake will automatically engage (closed by its spring), preventing the roller from turning further.

This motorised roller can also be used on automated guided vehicles (AGV's) to prevent containers moving due to inertia.

Controlled by ConveyLinx-JST-B, all control functions are available and comparable to the ConveyLinx-Ai2. The control unit automatically releases the brake with the drive command and engages it again when the drive

is dynamically braked or when power is interrupted. The entire braking and holding control is therefore fully automatic.

Reliable transport – Safety holding brake

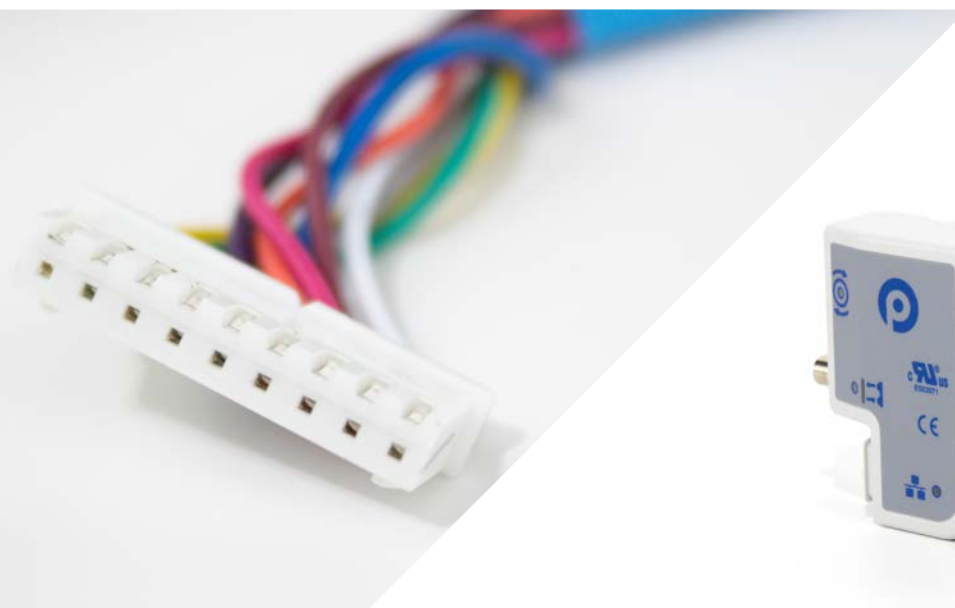
The Senergy-JST-B is the optimal motor roller for applications requiring a holding brake. For example, when items on a conveyor are required to stop and hold their position or when the conveyor has an incline or decline, the internal electro-magnetic brake will automatically engage when power to the conveyor is interrupted, thus holding any conveyed goods securely in position.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Perfect for incline and decline**
- **No external brake mechanism required**
- **Option for precise positioning**
- **Excellent life expectancy**

Features

- **Brushless 24V DC motor**
- **External motor controller**
- **Internal data memory**
- **Internal electro-mechanical brake**
- **9Pin JST connector**



9Pin JST connector



ConveyLinx-JST-B 24V control

General Technical Data

- **Voltage:** 24V DC
- **Nominal Output (mech.):** 50W
- **Protection Class:** IP54
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A | BOOST-8: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A | BOOST-8: 8,0A
- **Connection:** 9Pin JST Connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm
∅ 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg	25 kg	17 kg	12 kg	9 kg	7 kg

Characteristics Data Senergy-JST (without Brake) in Eco-Mode and Boost-Mode

Speed Code	Gearbox	Max. Speed m/s*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
15	3-stage	0,34	0,25	2,7	4,86	4,46	8,02
20		0,46	0,33	1,98	3,56	3,27	5,88
25		0,56	0,42	1,62	2,92	2,67	4,81
35	2-stage	0,83	0,58	1,2	2,16	1,98	3,56
45		1,01	0,75	1,0	1,8	1,65	2,97
60		1,38	1,0	0,73	1,32	1,21	2,18
75		1,69	1,25	0,6	1,08	0,99	1,78
95	1-stage	2,23	1,58	0,52	0,93	0,86	1,54
125		3,04	2,08	0,37	0,67	0,61	1,1
175		4,1	2,92	0,27	0,48	0,44	0,79
215		5,1	3,58	0,22	0,4	0,37	0,66

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Characteristics Data Senergy-JST-B (with Brake) in Eco-Mode and Boost-Mode

Speed Code	Gearbox	Max. Speed m/s*		Rated Torque Nm		Acceleration Torque Nm		Holding Torque Nm
		Eco	Boost	Eco	Boost	Eco	Boost	
15	3-stage	0,34	0,25	2,7	4,86	4,46	8,02	11,25
25		0,56	0,42	1,62	2,92	2,67	4,81	6,75
35	2-stage	0,83	0,58	1,2	2,16	1,98	3,56	4,5
45		1,01	0,75	1	1,8	1,65	2,97	3,75
60		1,38	1,0	0,73	1,32	1,21	2,18	2,75

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Roller Weight Senergy-JST (without Brake)

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)												
		300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
ø 50mm	15, 20, 25	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4	4,6	4,7
	35, 45, 60, 75	2,4	2,6	2,8	3,0	3,1	3,3	3,5	3,7	3,9	4,0	4,2	4,4	4,6
	95, 125, 175, 215	2,2	2,4	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Roller Weight Senergy-JST-B (with Brake)

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)												
		300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
ø 50mm	15, 20, 25	3,1	3,3	3,4	3,6	3,8	4,0	4,2	4,3	4,5	4,7	4,9	5,1	5,2
	35, 45, 60	2,9	3,1	3,3	3,5	3,6	3,8	4,0	4,2	4,4	4,5	4,7	4,9	5,1

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

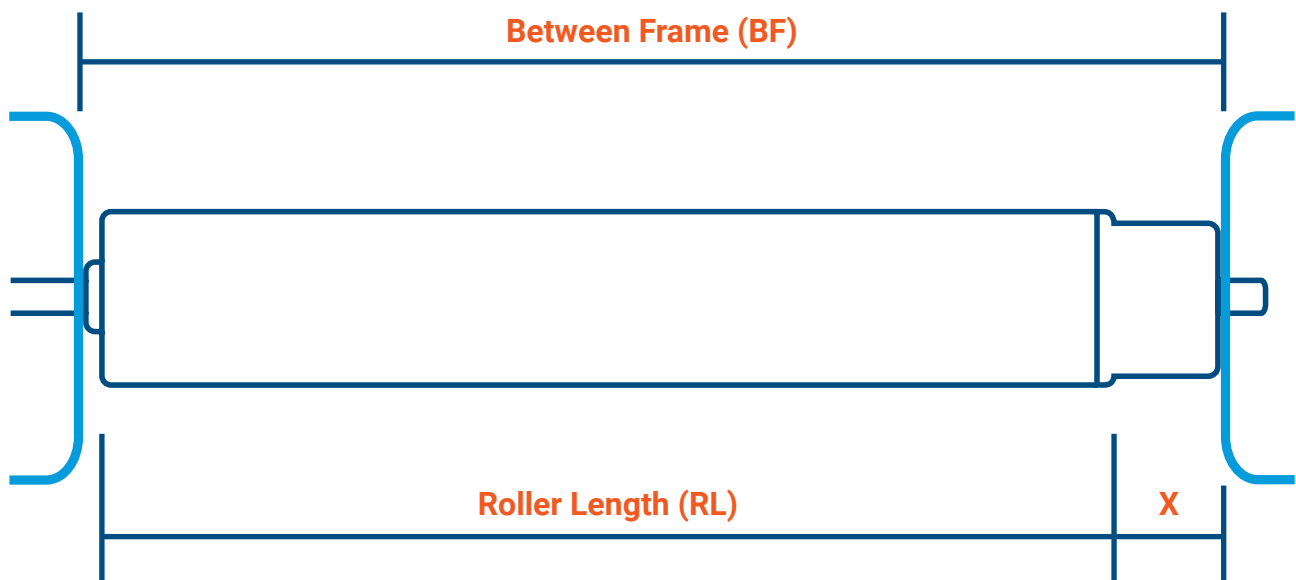
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: $BF = RL + X$



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

**What we
stand for:**

Efficiency.

Reliability.

Quality.

Safety.

Senergy

IDC



Our motor roller for 3rd party controls connection.

The Senergy-IDC is the first motor roller of Pulseroller which is capable to be controlled by a third party control of your choice! It is equipped with the same reliable and proven gearbox and electrical motor as our other motor rollers. The result is a motor roller which gives you the chance to choose your preferred controls architecture in combination with a reliable motor roller.

The Senergy-IDC is built on proven, robust and reliable components. It was developed on the base of our Senergy-Ai motor roller which is known for its reliability, error-free function as well as powerful operations. With the motor controller placed inside of the motor roller you receive a motor roller which is able to adapt to your

specifications and controls architecture! By utilizing the analogue 0-10V standard, the Senergy-IDC can be easily connected to a wide range of third-party controllers. This allows you to operate our motor roller with the control system of your choice, providing customized solutions for your specific needs.

Benefits

- **Freedom to choose control**
- **Proven design and gearbox**
- **Excellent life expectancy**
- **Integrated commutation electronics**
- **Customized solutions**

Features

- **Brushless 24V DC motor**
- **5Pin connector**
- **Principle of 0-10V standard**
- **IP54/IP66/IP69K**



5Pin standard connector



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output (mech.):** Up to 42W
- **Protection Class:** IP54/IP66/IP 69K
- **Rated Current:** 2,4A
- **Starting Current:** 3,0A
- **Connection:** 5Pin Connector
- **Ambient Temperature:** -30°C – 0°C (Freezer) | -10°C – +40°C (Standard)
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, Freezer, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm
∅ 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg	25 kg	17 kg	12 kg	9 kg	7 kg

Basic Characteristics Data Senergy-IDC

Speed Code	Gearbox	Max. Speed m/s*	Rated Torque (Nm) @ 20°C	Acceleration Torque Nm
15	3-stage	0,34	2,53	4,15
20		0,46	1,86	3,03
35	2-stage	0,83	1,15	1,84
45		1,01	0,94	1,51
60		1,38	0,69	1,1
95	1-stage	2,23	0,48	0,75

* Speed regulation according to input voltage shown on the page 26.

Advanced Characteristics Data Senergy-IDC

Gearbox	Output (W) @ 20°C	Derating (%/K)	Overload
3-stage	34W	-1,2%	146%
2-stage	38W	-1,1%	163%
1-stage	42W	-1,0%	181%

Roller Weight Senergy-IDC

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)												
		300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
∅ 50mm	15, 20, 25	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4	4,6	4,7
	35, 45, 60, 75	2,4	2,6	2,8	3,0	3,1	3,3	3,5	3,7	3,9	4,0	4,2	4,4	4,6
	95	2,2	2,4	2,6	2,8	2,9	3,1	3,3	3,5	3,7	3,8	4,0	4,2	4,4

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

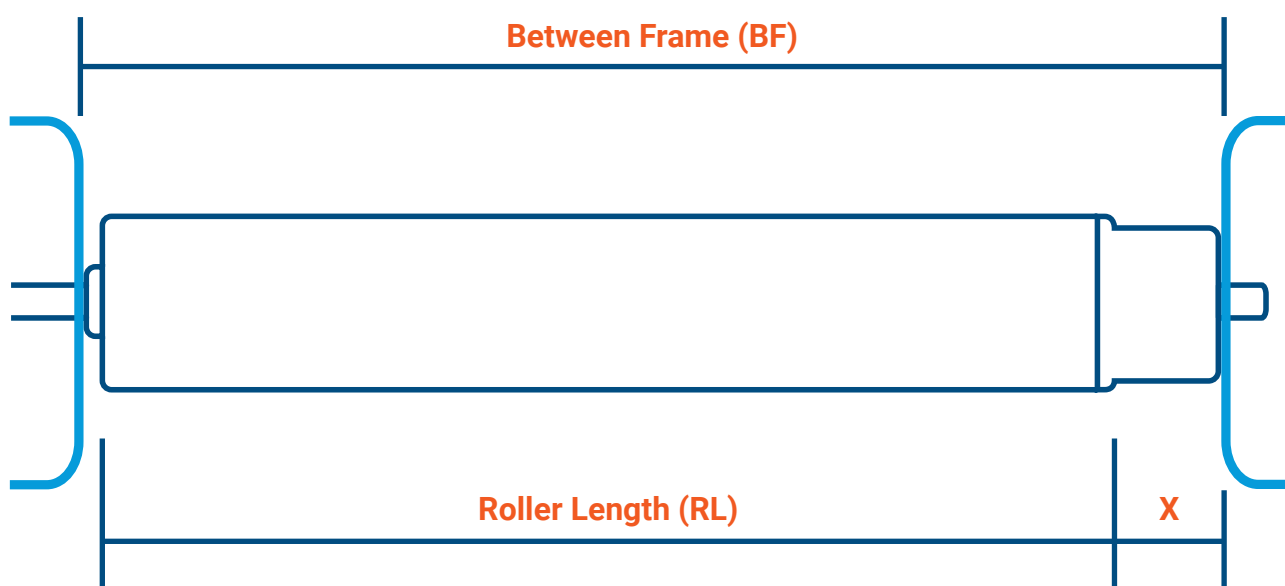
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

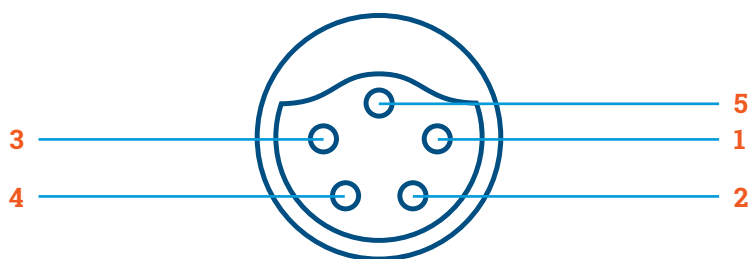
RL = Roller Length | BF = Between Frame

Calculation Formula: $BF = RL + X$



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Senergy-IDC connector pinout



Pin	Function	Value
1	Power supply input (+)	Rated voltage: 24V DC Voltage range: 18V to 28V DC
2	Direction of rotation, seen from the cable end of Senergy-IDC	< 4.5V = Counter clockwise > 6.5V = Clockwise
3	Earth for power supply and signal (-)	Ground
4	Error output	Open Collector Error = High Signal No error = Low Signal
5	Speed input voltage	See table and chart on next page

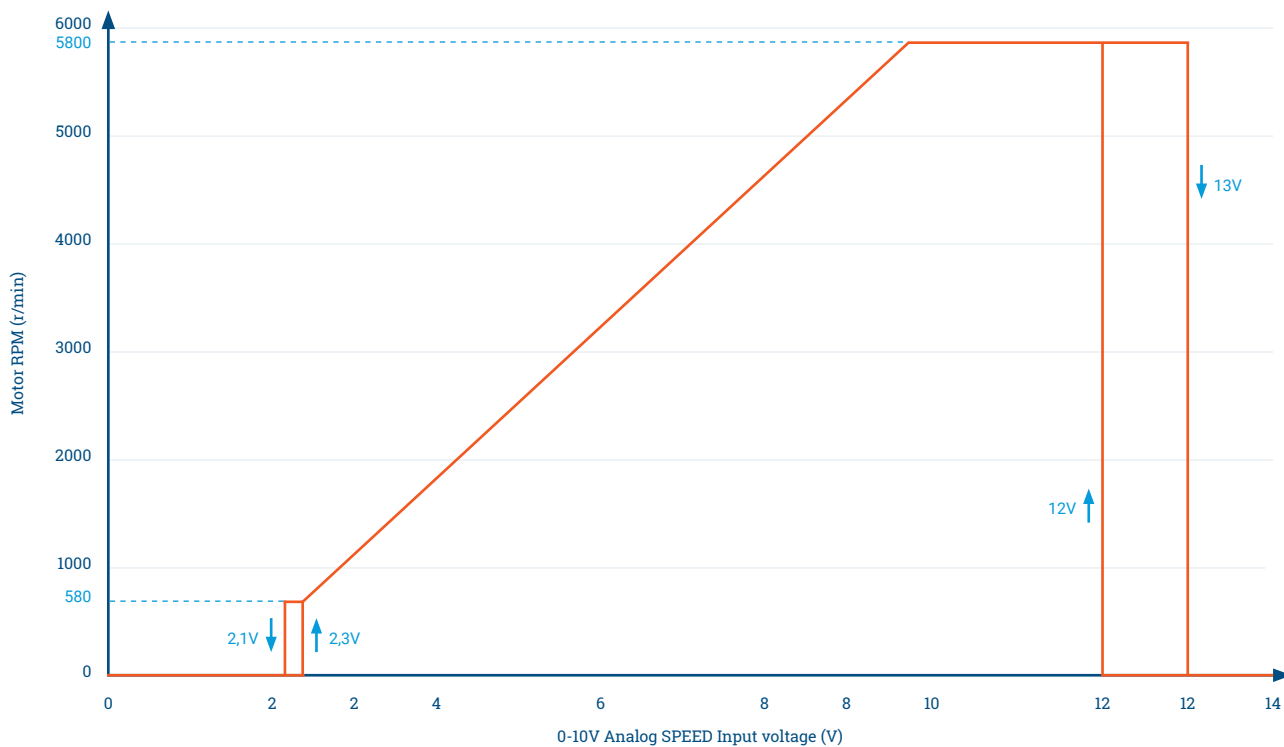
Error Output Description

Error Name	Condition	Motor Stops	Reset Type	Reset Condition
Overheat	Motor Temperature > 100°C	Yes	Auto	Motor temperature < 90°C
Overvoltage	Supply Voltage > 31V for > 2s	Yes	Auto	Supply Voltage < 30V
Undervoltage	Supply Voltage < 13V	Yes	Auto	Supply Voltage > 14V
Overcurrent	Input current > 16A	Yes	Auto	Autoreset after 0,2s
Rotor lock	Supply current > 3,6A for >10s	Yes	Auto	Autoreset after 5s
Hall sensor error	Abnormal hall sensor combination	No	Auto	Autoreset after 5s OR hall sensor combination becomes normal

Speed input voltage versus motor RPM Data

Input Voltage (V)	Motor RPM (rpm)
13 ~	0
10 ~ 12	5800
9.5	5800
9.3	5655
9.1	5510
8.9	5365
8.7	5220
8.5	5075
8.3	4930
8.1	4785
7.9	4640
7.7	4495
7.5	4350
7.3	4205
7.1	4060
6.9	3915
6.7	3770
6.5	3625
6.3	3480
6.1	3335

Input Voltage (V)	Motor RPM (rpm)
5.9	3190
5.7	3045
5.5	2900
5.3	2755
5.1	2610
4.9	2465
4.7	2320
4.5	2175
4.3	2030
4.1	1885
3.9	1740
3.7	1595
3.5	1450
3.3	1305
3.1	1160
2.9	1015
2.7	870
2.5	725
2.3	580
2 ~ 0	0



Speed Input Voltage	Target motor RPM
0 - 2.3V	0 [r/min] (Stop: Brake Mode)
2.3V - 9.5V	580 - 5800 [r/min] (Linear resolution)
9.5V - 13V	5800 [r/min] (Max. Speed)

Holding Brake Roller



Mechanical holding brake roller for incline and decline conveyors.

The Holding Brake Roller, made for usage with 24V/48V products, is our solution for a reliable and robust brake roller with a M8-4Pin standard connection.

In combination with a ConveyLinx-Ai control of your choice and our Senergy-Ai 24V/48V motor roller you receive the perfect product package for incline and decline conveyors.

Available only in gear ratio 18:1, the HBR is well equipped with enough holding torque for a variety of applications. The HBR is controlled by a ConveyLinX controller which must be also connected to a motorised roller. The motorised roller is connected to one motor connection and the holding brake roller is connected to the other motor

connection. ConveyLinX coordinates and controls the brake completely automatically. This ensures that the conveyor system functions reliably. No package or container can travel downhill on inclines or inclines in the event of a power failure or emergency stop. The HBR reliably keeps the rollers braked.

Benefits

- **Automatically controlled holding brake**
- **Error-Free gearbox design**
- **Strong Holding Torque**
- **Excellent life expectancy**
- **Safe operations without programming**
- **Braking without power**

Features

- **Spring-mounted holding brake**
- **M8-4Pin standard connector**
- **Internal data memory**
- **IP54/IP66/IP69K**
- **Identical design compared to our motor rollers**



PolyV stainless steel head



M8-4Pin standard connector

General Technical Data

- **Voltage:** 24V DC (for Brake) | 48V
- **Protection Class:** IP54/IP66/IP69K
- **Current Consumption:** 0,25 ~ 0,30A
- **Connection:** M8-4Pin Connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, WashDown
- **Certifications:** RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm
ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg	25 kg	17 kg	12 kg	9 kg	7 kg

Holding Torque Holding Brake Roller

Gear Ratio	Holding Torque
18:1	4,5 Nm

Roller Weight Holding Brake Roller

Diameter	Gear Ratio	Roller Length (Weight varies depending on Interlocking Options)												
		300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
ø 50mm	18:1	2,5	2,7	2,8	3,0	3,2	3,4	3,6	3,7	3,9	4,1	4,3	4,5	4,6

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

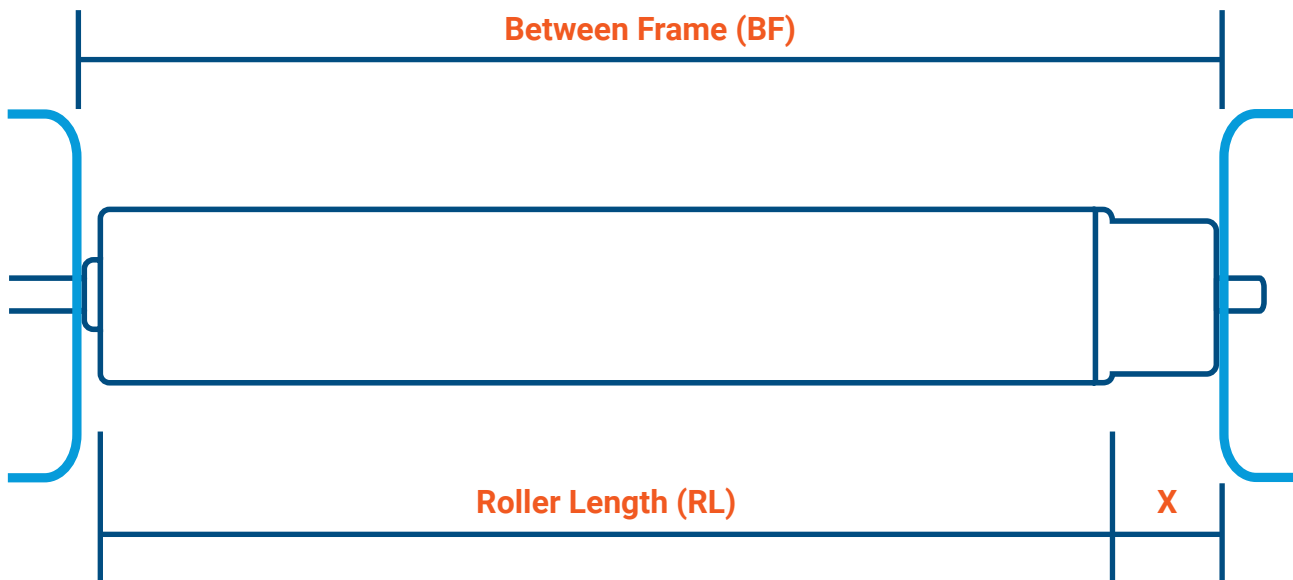
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: $BF = RL + X$



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Pallet

Ai



The specialised motor roller for pallet handling and transport.

The Pallet-Ai 24V is the perfect solution for pallet handling in challenging and spatial conditions. Especially when you are not able to install conventional gear motors, Pallet-Ai is the ideal solution for your conveyor system.

In situations where a conventional geared motor is not suitable, the use of a motorised roller offers a practical alternative. This motorised roller has sufficient torque to move pallets weighing up to 1000 kg (please check the weight again) and both, chain as well as PolvV versions are available to

drive the travelling conveyor rollers. Due to their compatibility with the entire range of the "Ai-controller family", integration into higher-level control systems can be realised effortlessly. Numerous functions and configuration options are available to meet individual requirements.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Option for precise positioning**
- **Perfect for tight spatial conditions**
- **Highly adaptable**
- **Same control architecture as Senergy-Ai 24V**

Features

- **Brushless 24V DC motor**
- **External motor controller**
- **M8-4Pin standard connector**
- **Internal data memory**
- **IP54/IP66/IP69K**
- **Remote control versatility and diagnostics**



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output:** 50W
- **Protection Class:** IP54/IP66
- **Rated Current:** BOOST: 3,5A | BOOST-8: 3,5A
- **Starting Current:** BOOST: 5,0A | BOOST-8: 8,0A
- **Connection:** M8-4Pin Connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-Plated steel, Stainless steel
- **Lagging Options:** 3mm Black Rubber, 3mm Urethane
- **Max. Tube Length:** 1800mm
- **Implementation Options:** Standard, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
Ø 60,5mm	300 kg	300 kg	300 kg	300 kg	260 kg	210 kg	170 kg	150 kg	130 kg	120 kg	110 kg

Characteristics Data Pallet-Ai

Diameter	Speedcode	Gearbox	Max. Speed m/s*	Rated Torque (Nm)	Acceleration Torque (Nm)
Ø 60,5 mm	8	3-stage	0,14	10,9	49,3
	10		0,2	8,0	36,1
	15		0,3	5,4	24,3
	20		0,4	3,9	17,7

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Roller Weight Pallet-Ai

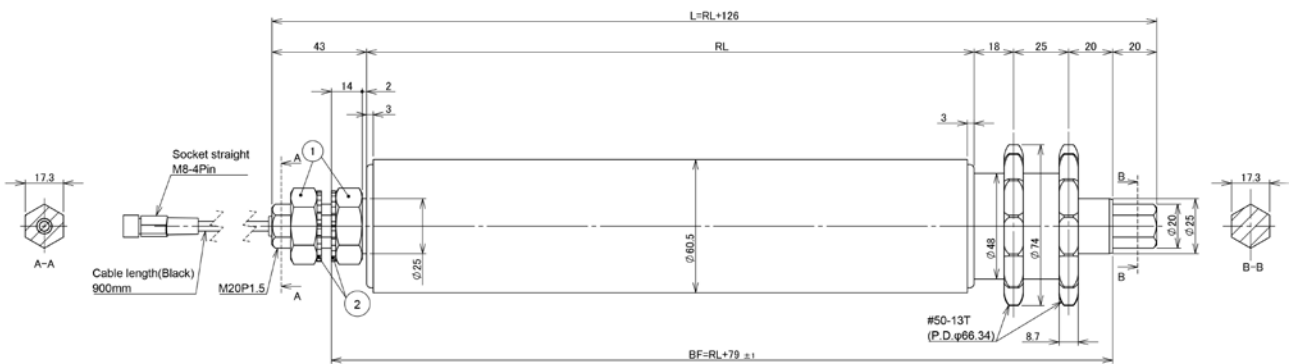
Roller Length	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
Ø 60,5mm	8,1	8,6	9,0	9,5	9,9	10,4	10,8	11,2	11,7	12,1	12,6

Weight in kg

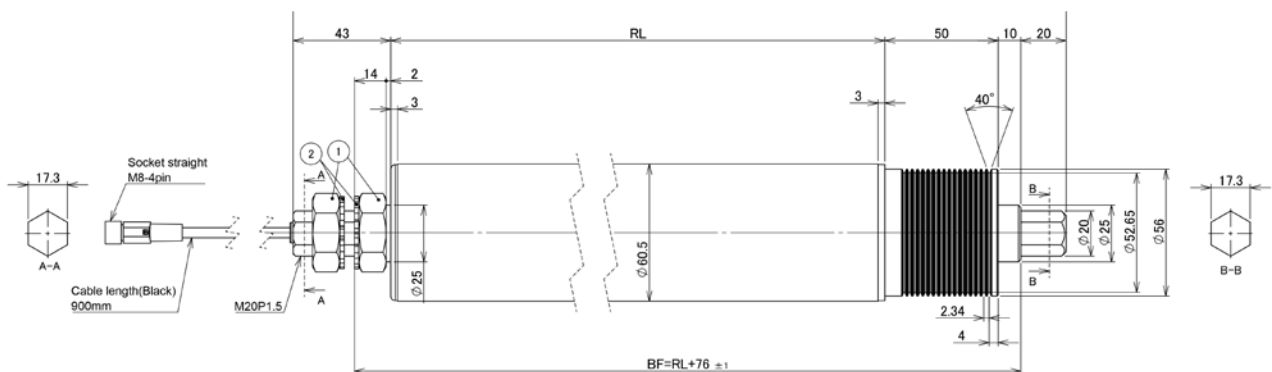
Reference Drawing of Pallet-Ai Plain Straight



Reference Drawing of Pallet-Ai Dual Sprockets



Reference Drawing of Pallet-Ai PolyV Head



Tube Versions

Senergy powered motor rollers can be used either as a standalone powered roller, or for driving slave rollers utilizing most common types of belt transmission.

Additionally, there is a IP66/IP69K washdown option as a full stainless steel Senergy-Ai available and also a freezer option with IP54. Special tube options are possible on request.



Stainless steel
50 x 1,5mm



Zinc-Plated steel
50 x 1,5mm



**Conical segments
with 1,8° conicity
for roller curves**



**Crowned
51 x 1,5mm**



**2 mm Polyurethane
Tube: 50 x 1,5mm**



**2 mm PVC
Tube: 50 x 1,5mm**

Torque Transmissions



**Poly-V head for
use with standard
Poly-V belts.**

M8 internal thread
Spring-loaded hex shaft



**Motor roller
without torque
transmission**

M8 internal thread
Spring-loaded hex shaft



**Poly-V IP66/69K head
for use with standard
Poly-V belts.**

M8 internal thread
Spring-loaded hex shaft



**IP66/69K rated
without torque
transmission**

M8 internal thread
Spring-loaded hex shaft



**Roundbelt
head for
round belts.**

M8 internal thread
Spring-loaded hex shaft



**Single or double groove
tube for round belts.
(available in IP66/69K)**

M8 internal thread
Spring-loaded hex shaft



Get to know our test loop in our Sales Office!

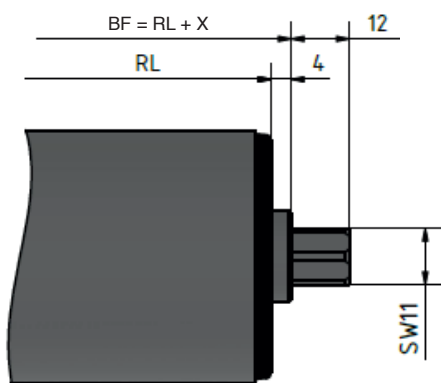
Experience it in our german Sales Office.



Variants and Dimensions

Variants and dimensions of the drive side

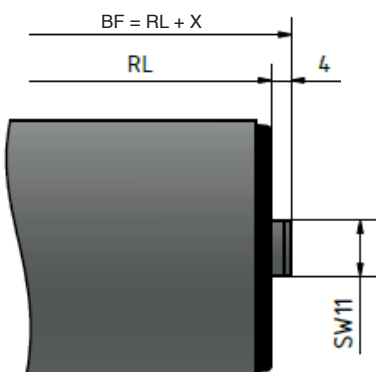
No interlocking with **11mm hexagon spring axle**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

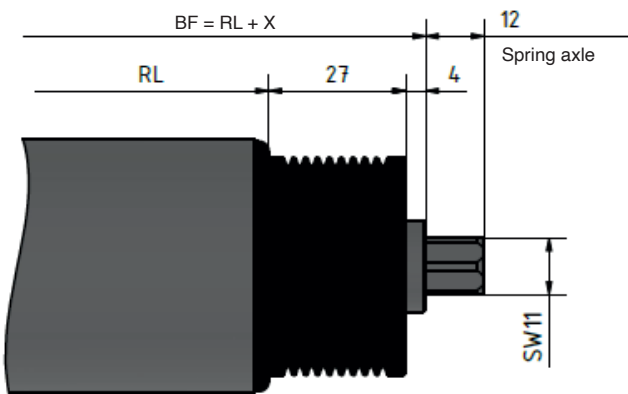
No interlocking with **M8 internal thread (sliding shaft)**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

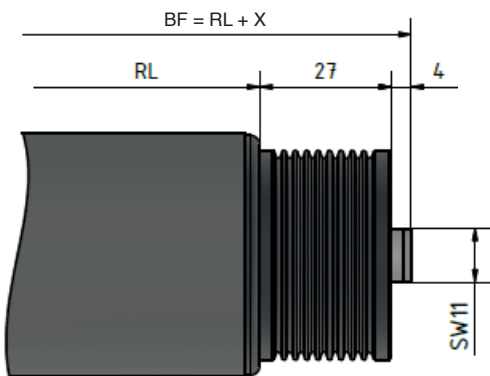
Poly-V drive head with 11mm hexagon spring axle



Cable side with M12 thread: X = +36mm

Cable side without thread: X = +35mm

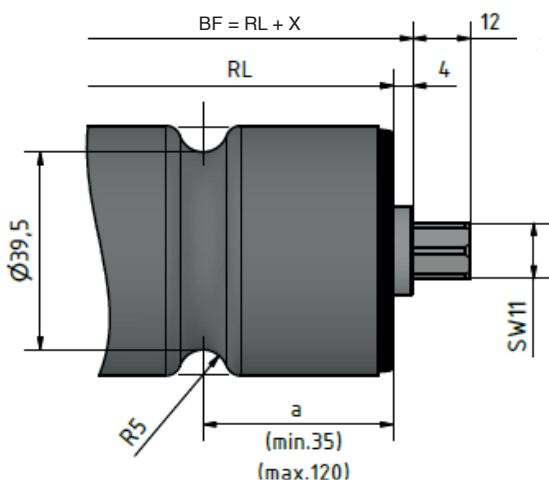
Poly-V drive head with M8 internal thread (sliding shaft)



Cable side with M12 thread: X = +36mm

Cable side without thread: X = +35mm

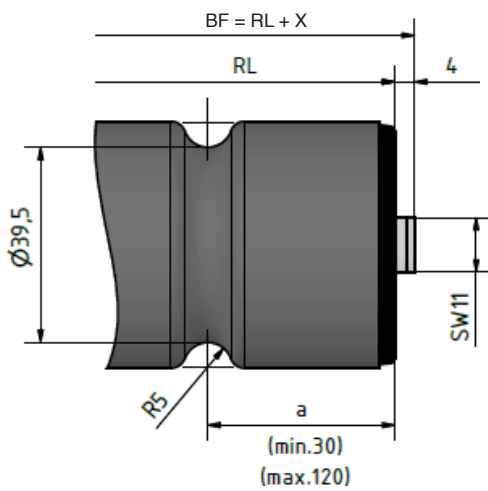
Roundbelt drive with a groove and 11mm hexagonal spring axle



Cable side with M12 thread: X = +9mm

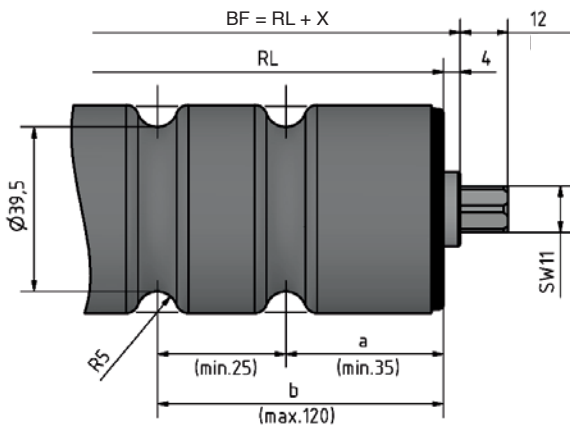
Cable side without thread: X = +8mm

Roundbelt drive with a groove and **M8 internal thread (sliding shaft)**



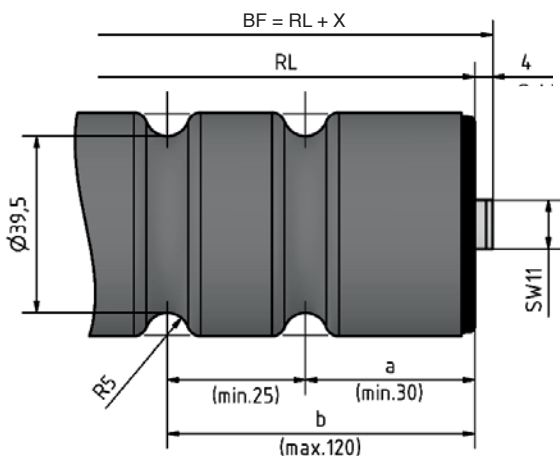
Cable side with M12 thread: X = +9mm
Cable side without thread: X = +8mm

Roundbelt drive with **11mm hexagonal spring axle**



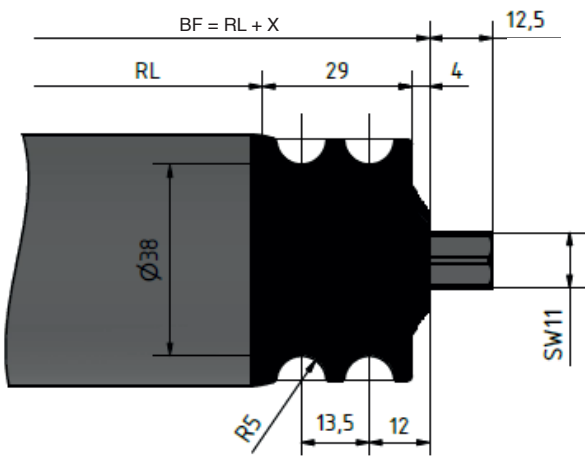
Cable side with M12 thread: X = +9mm
Cable side without thread: X = +8mm

Roundbelt drive with **M8 internal thread (sliding shaft)**



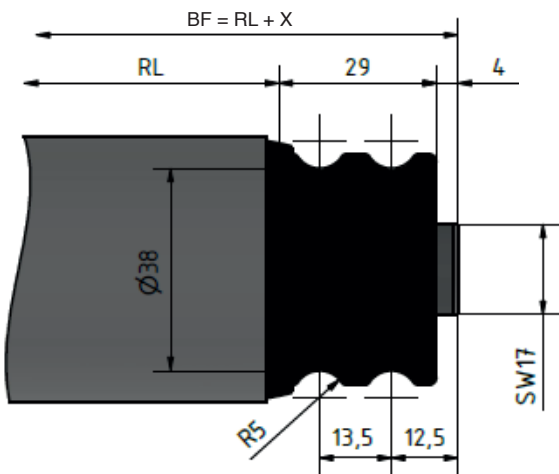
Cable side with M12 thread: X = +9mm
Cable side without thread: X = +8mm

Double groove head for round belts with **11mm hexagonal spring axle**



Cable side with M12 thread: X = +38mm
Cable side without thread: X = +37mm

Double groove head for round belts with **M8 internal thread (sliding shaft)**

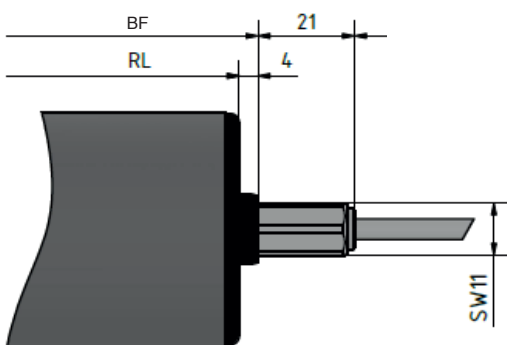


Cable side with M12 thread: X = +38mm
Cable side without thread: X = +37mm

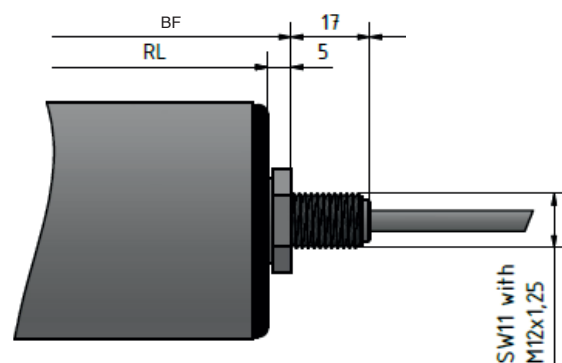
Cable Side Dimensions

Cable length Senergy-Ai: 1000mm

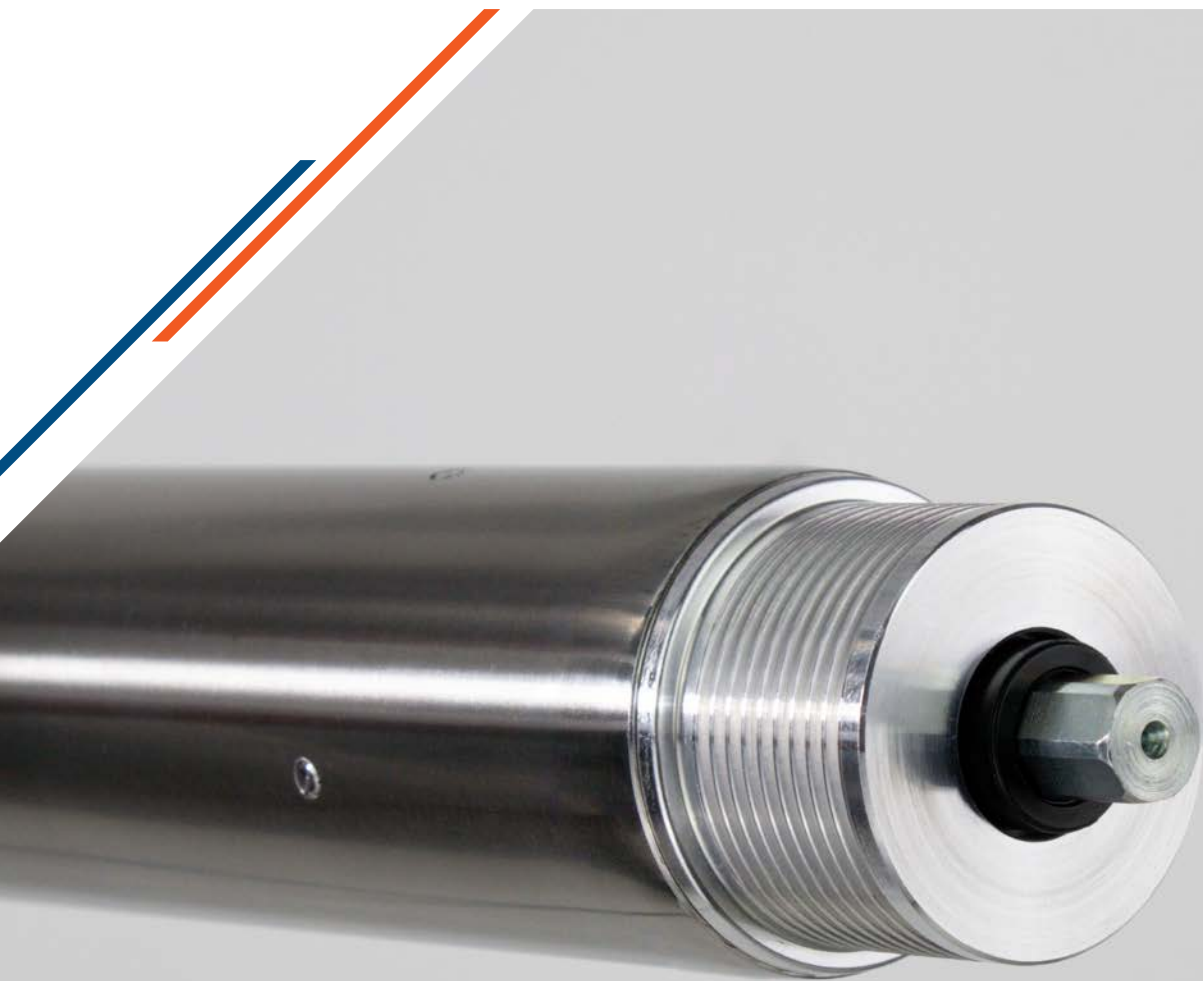
Non-threaded Hexagon 11mm



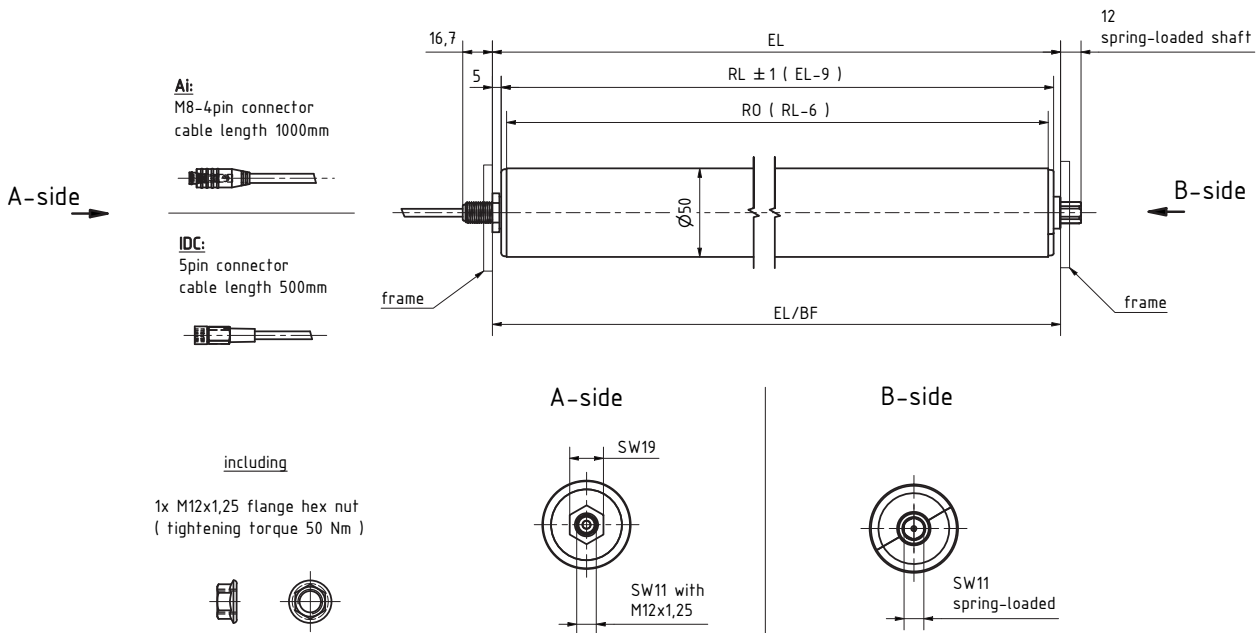
Hexagon 11mm with M12 thread



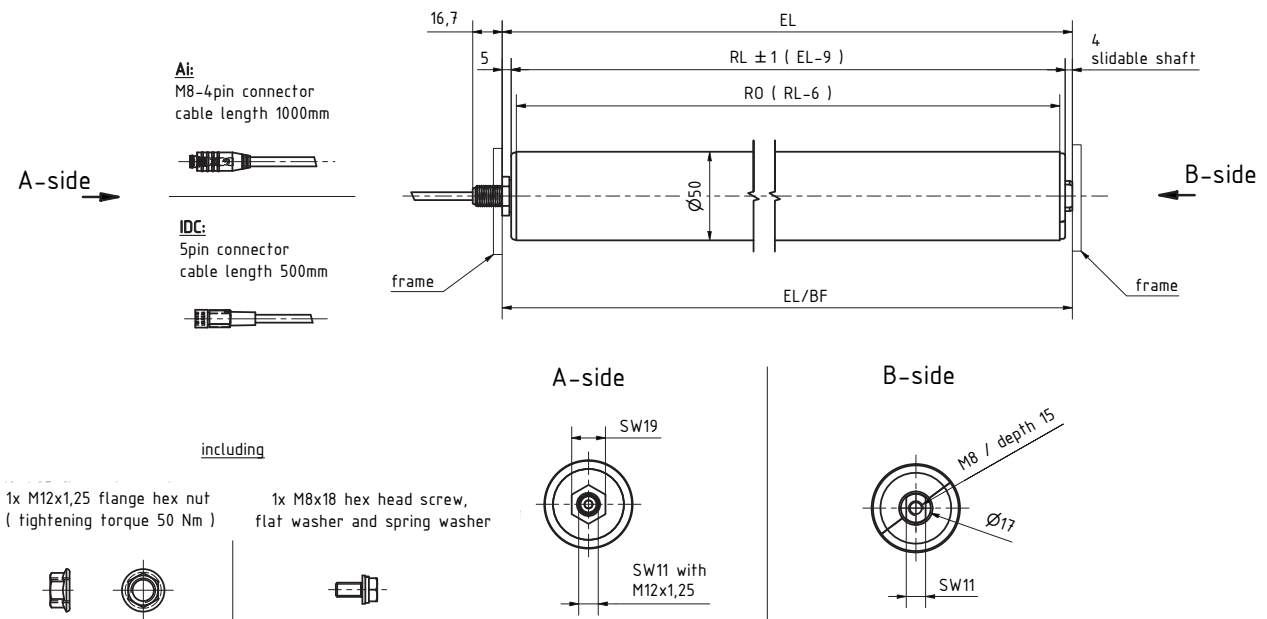
Reference Drawings



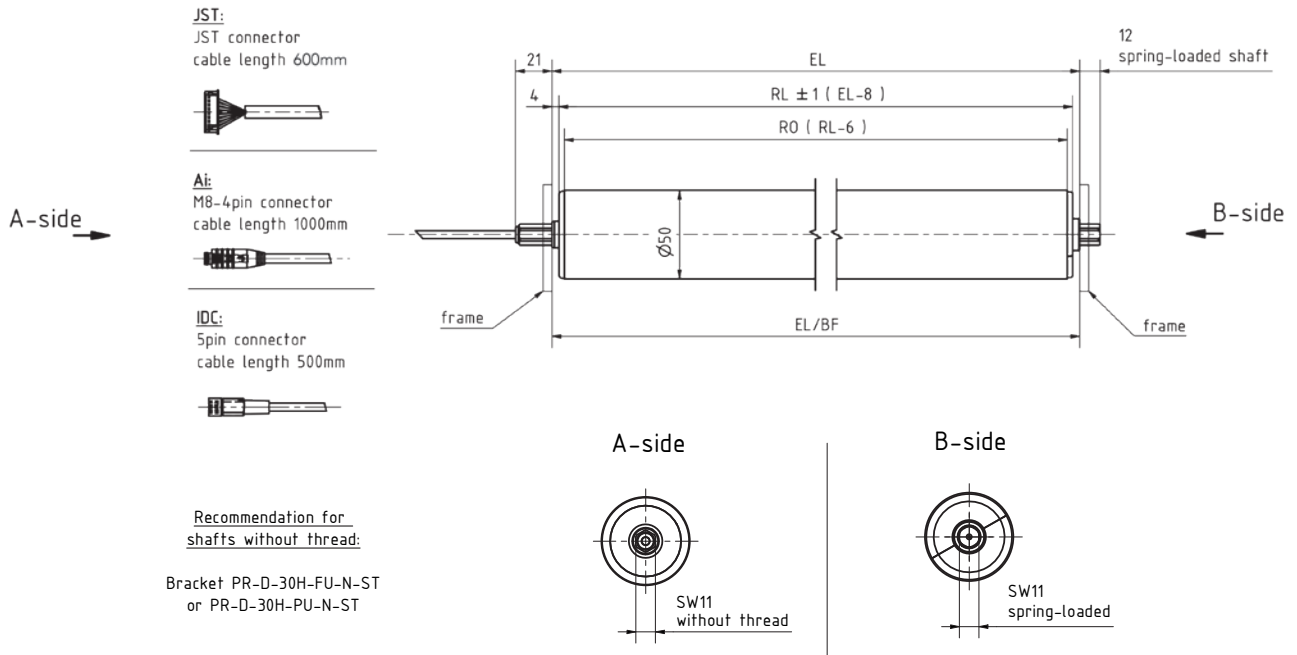
Standard (IP54), No interlocking
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



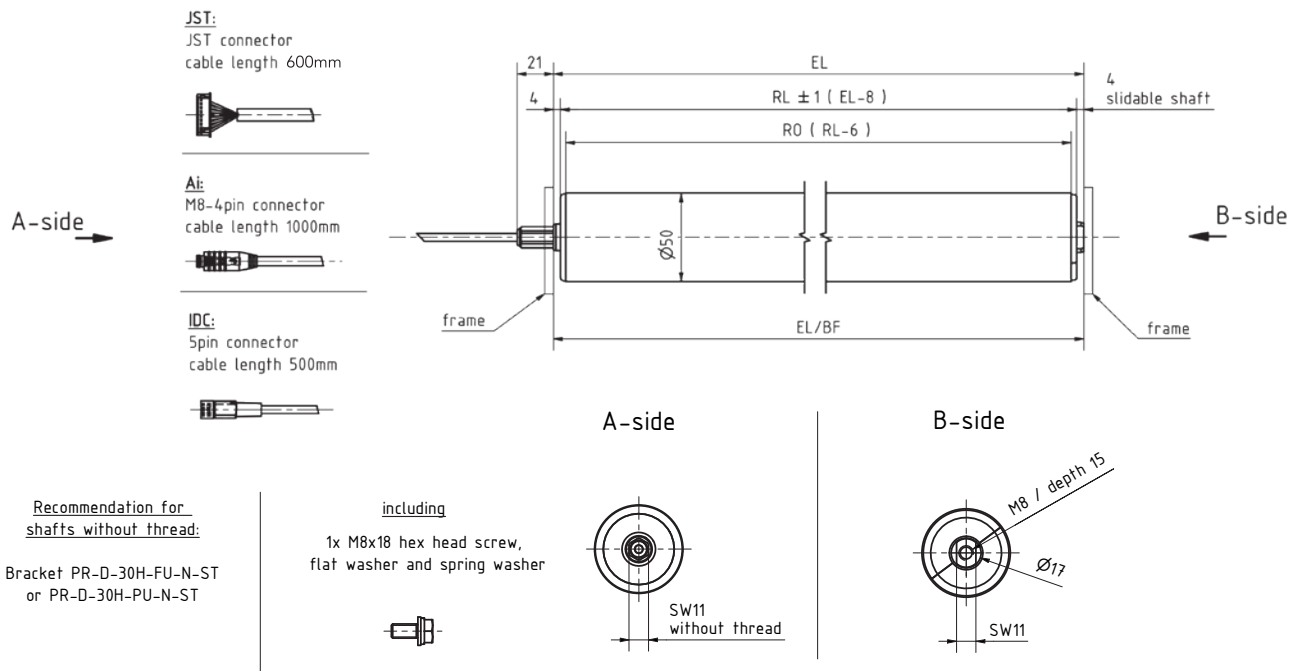
Standard (IP54), No interlocking
M12x1,25 threaded hex SW11 / M8 internal thread



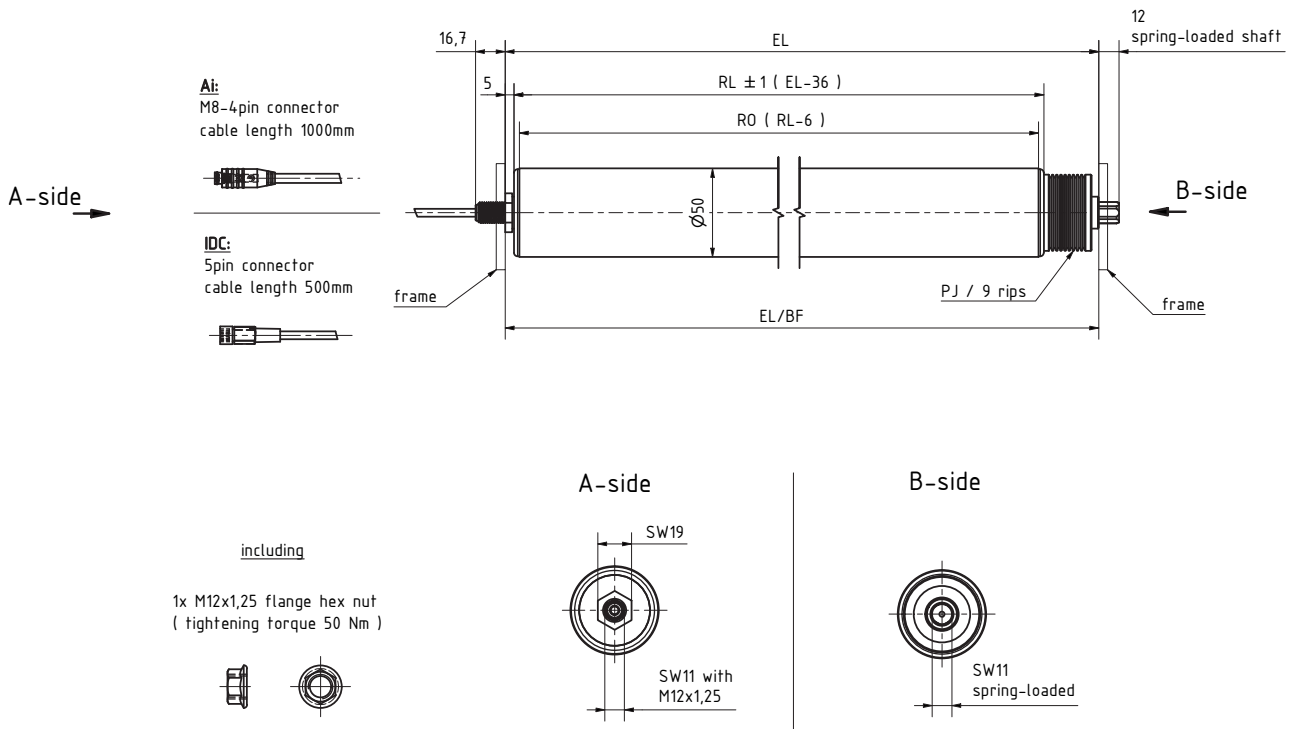
Standard (IP54), No interlocking
Non threaded hex SW11 / Spring-loaded hex SW11



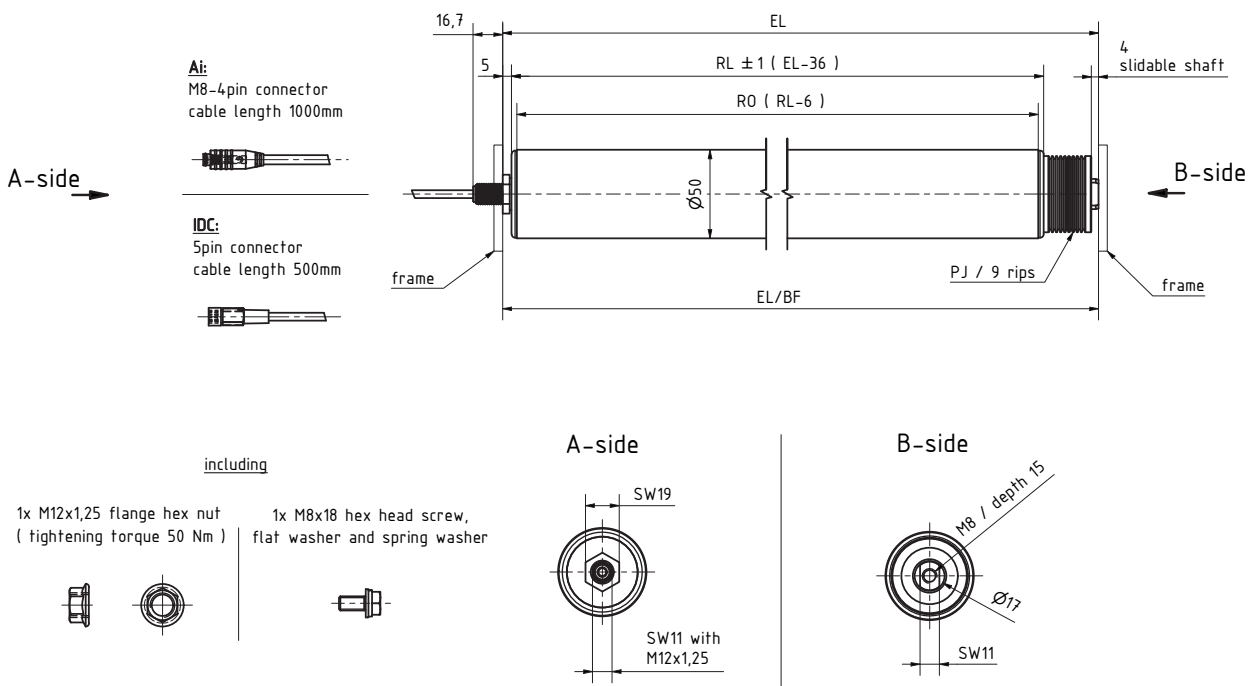
Standard (IP54), No interlocking
Non threaded hex SW11 / M8 internal thread



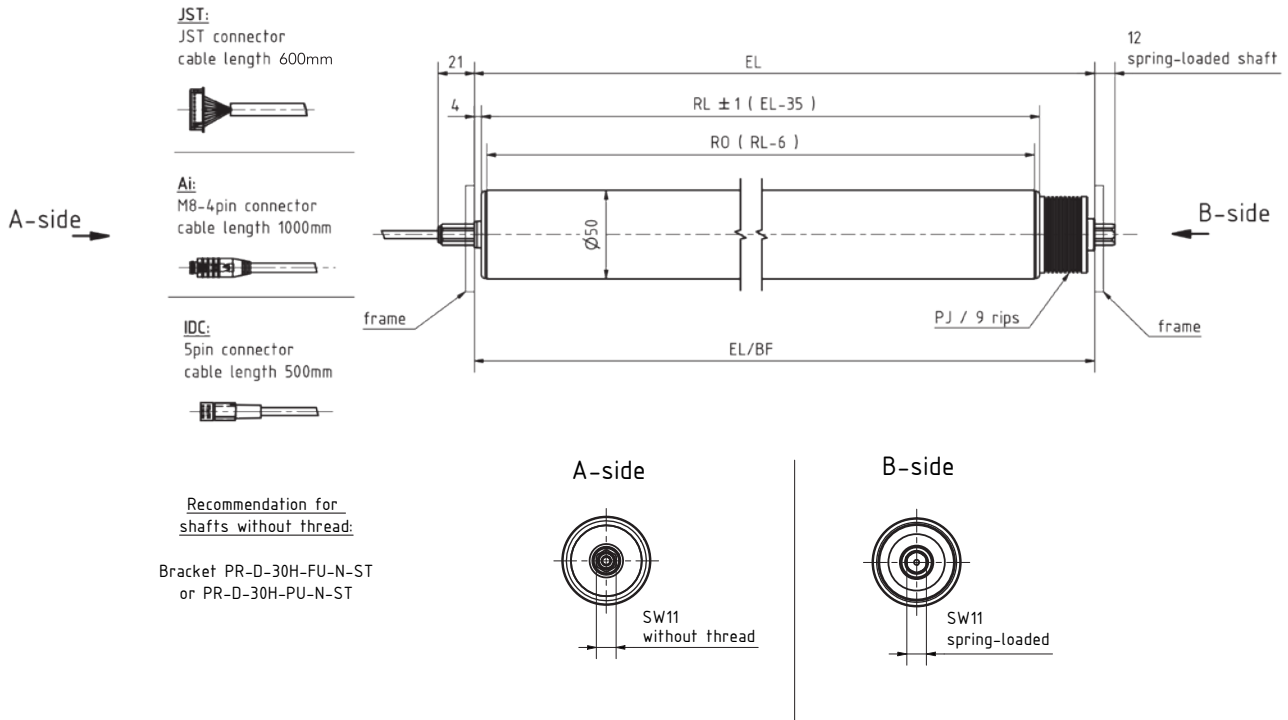
Standard (IP54), PolyV-head
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



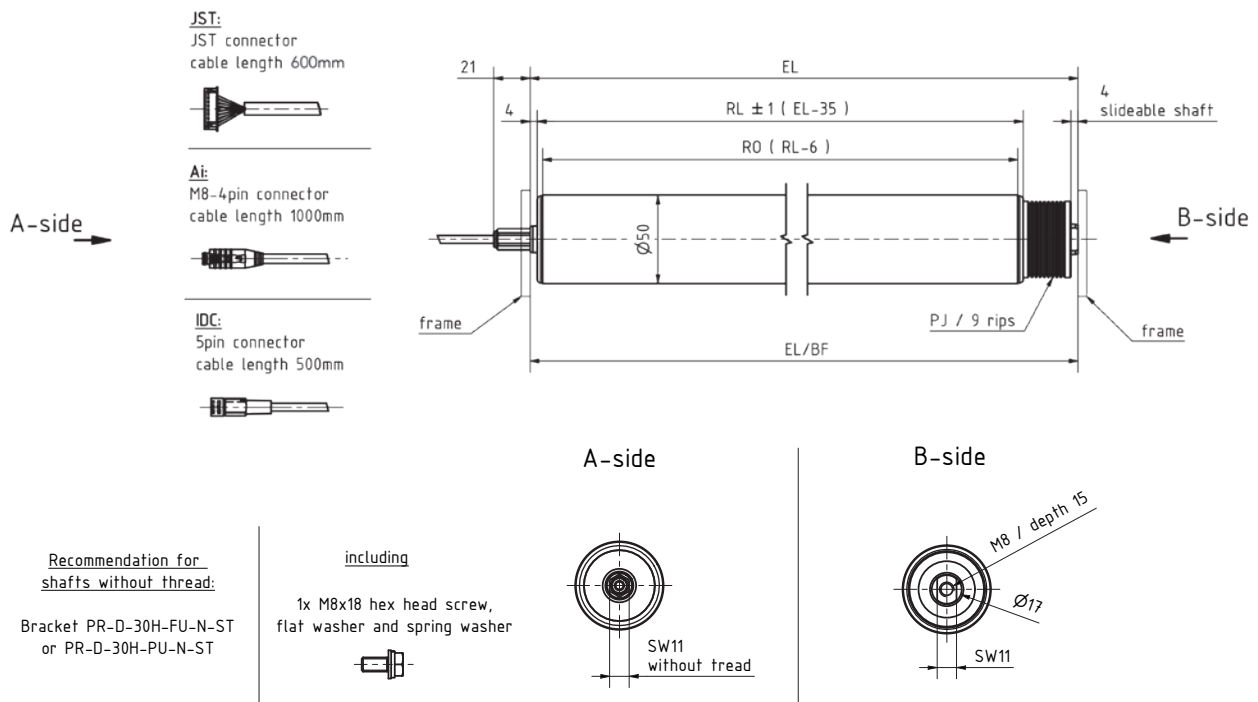
Standard (IP54), PolyV-head
M12x1,25 threaded hex SW11 / M8 internal thread



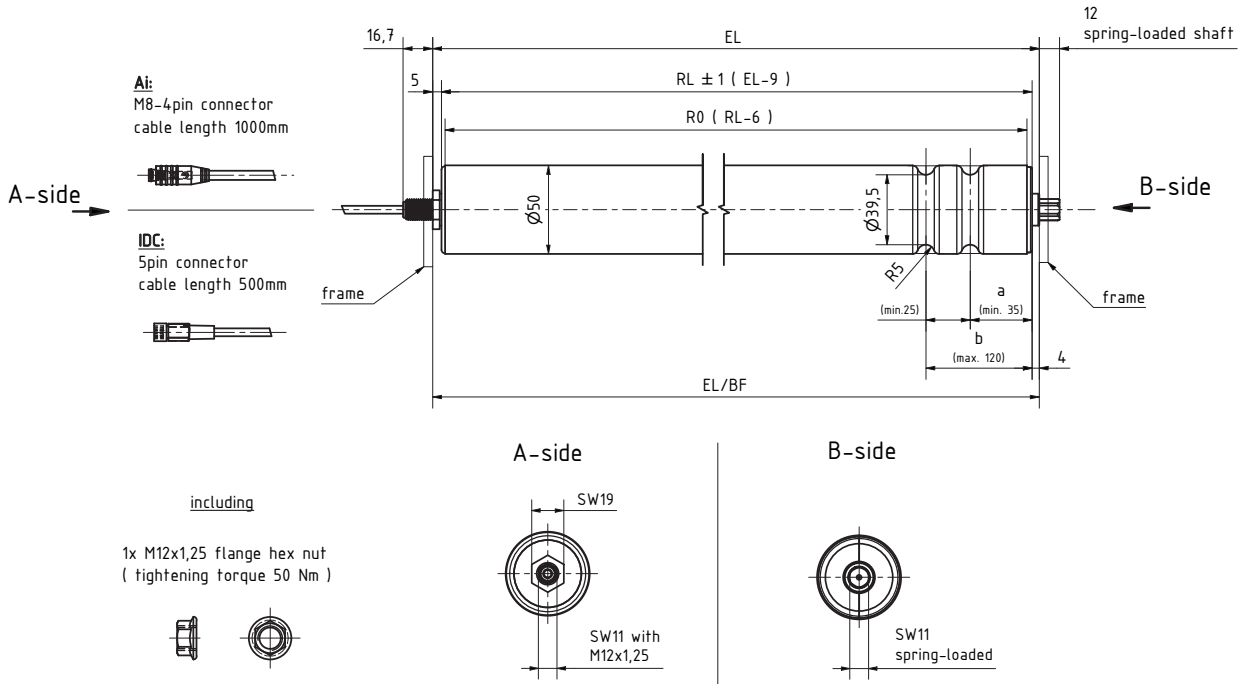
Standard (IP54), PolyV-head
Non threaded hex SW11 / Spring-loaded hex SW11



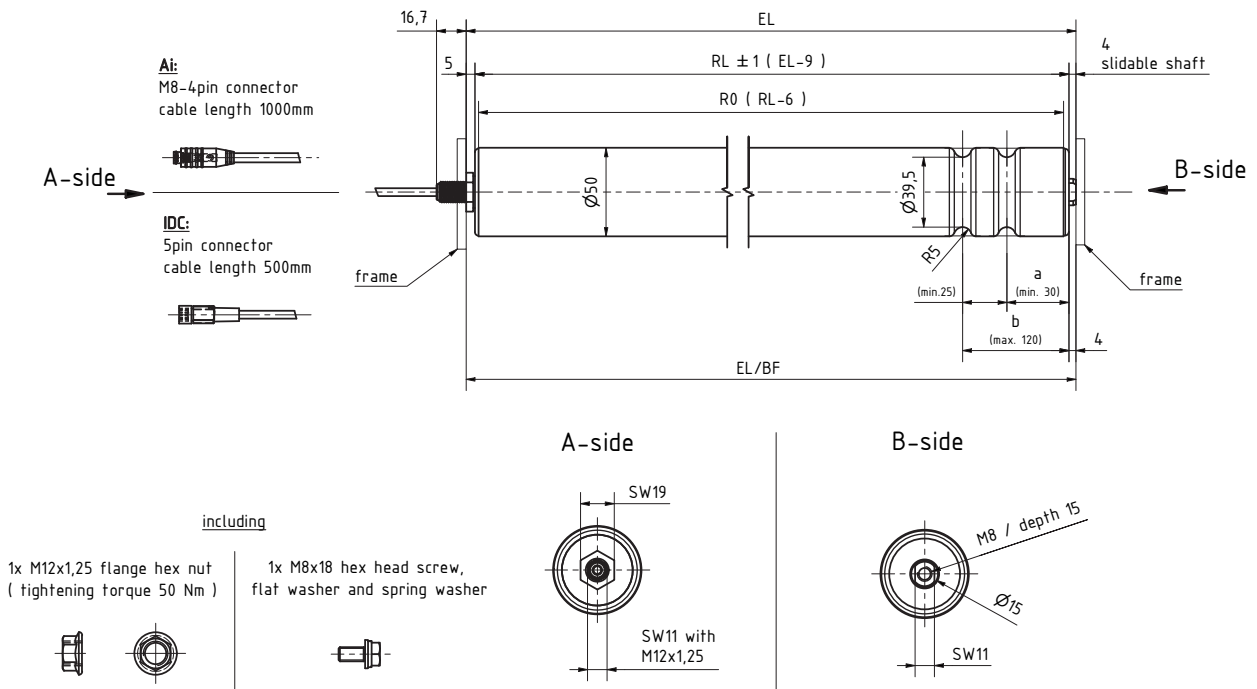
Standard (IP54), PolyV-head
Non threaded hex SW11 / M8 internal thread



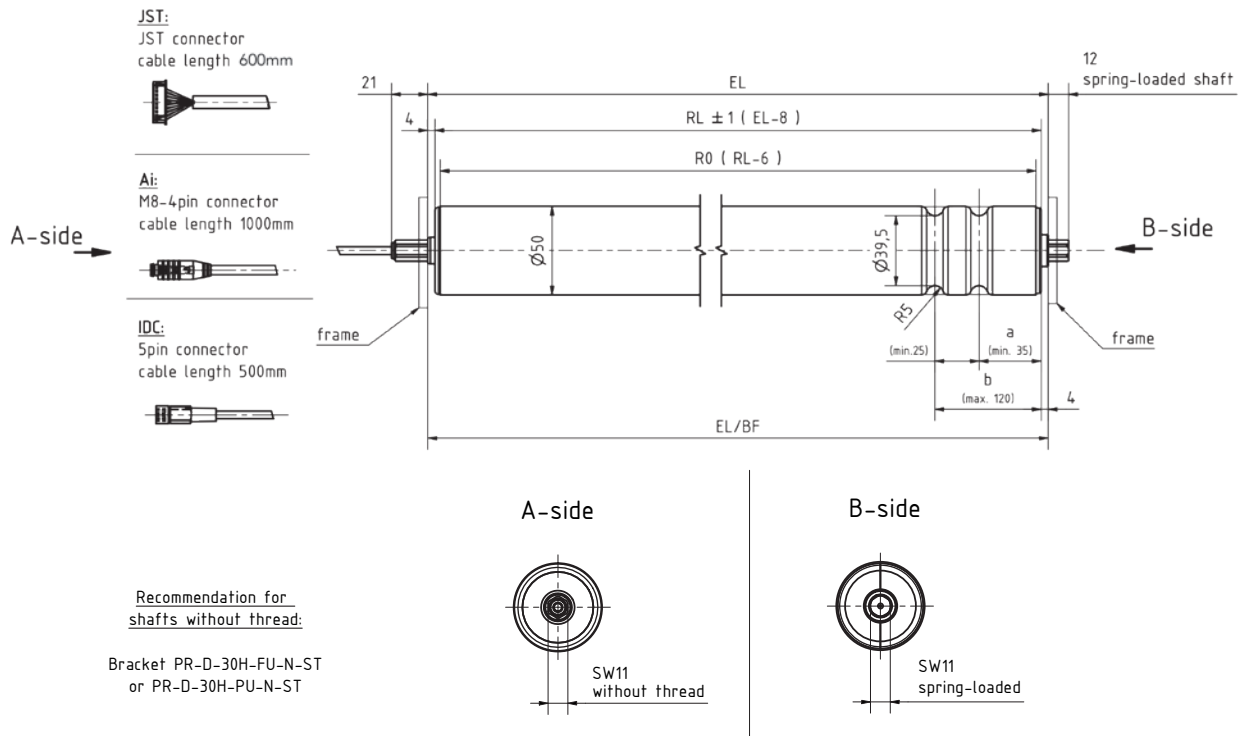
Standard (IP54), Grooved tube (1 or 2 grooves)
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



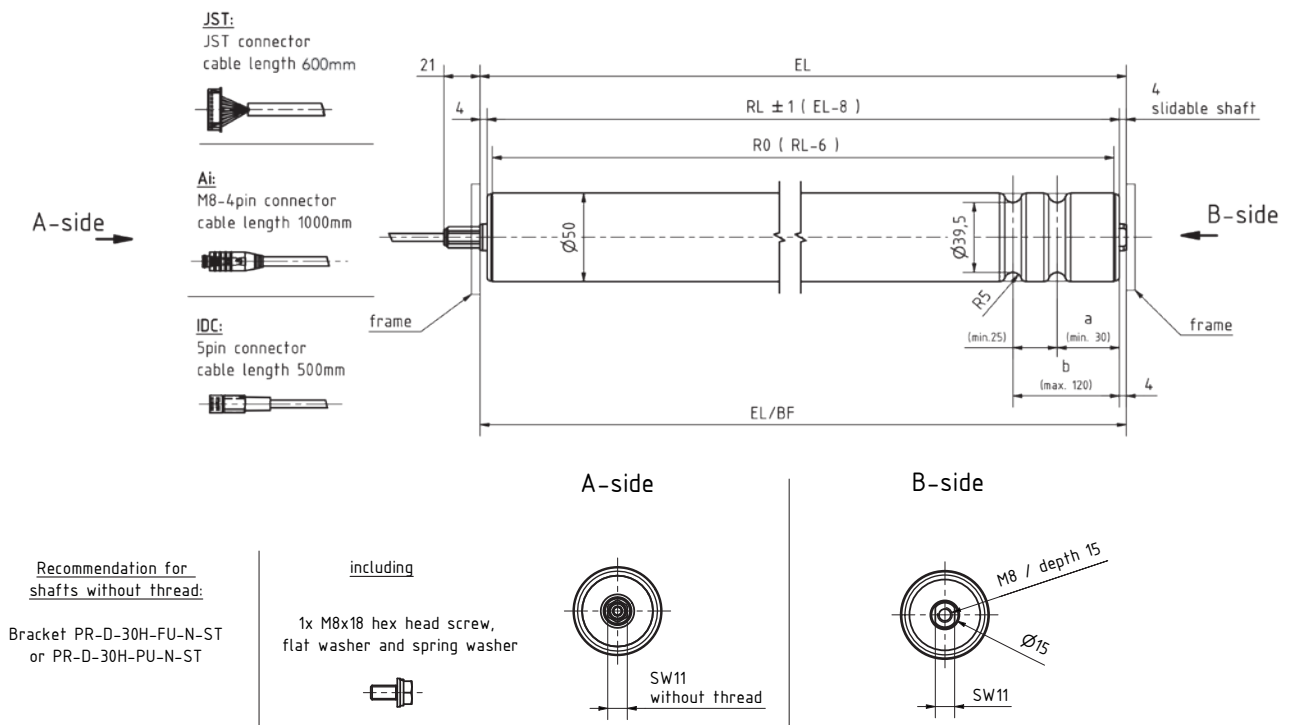
Standard (IP54), Grooved tube (1 or 2 grooves)
M12x1,25 threaded hex SW11 / M8 internal thread



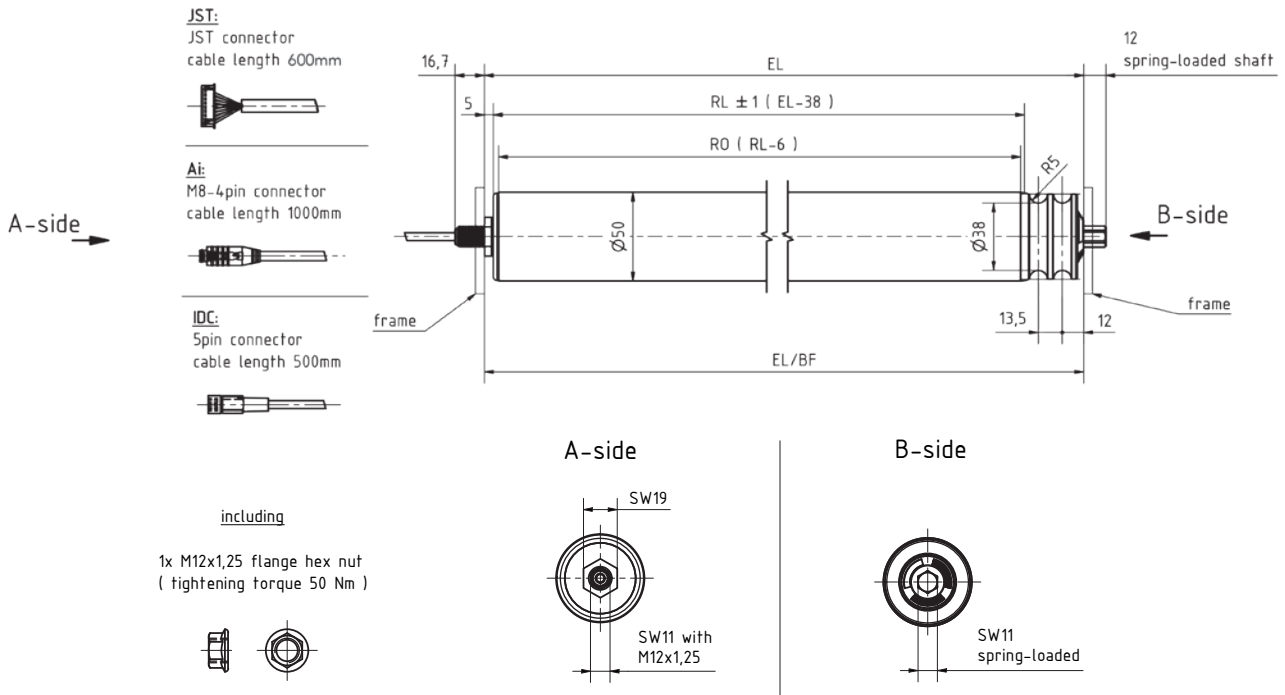
Standard (IP54), Grooved tube (1 or 2 grooves)
Non threaded hex SW11 / Spring-loaded hex SW11



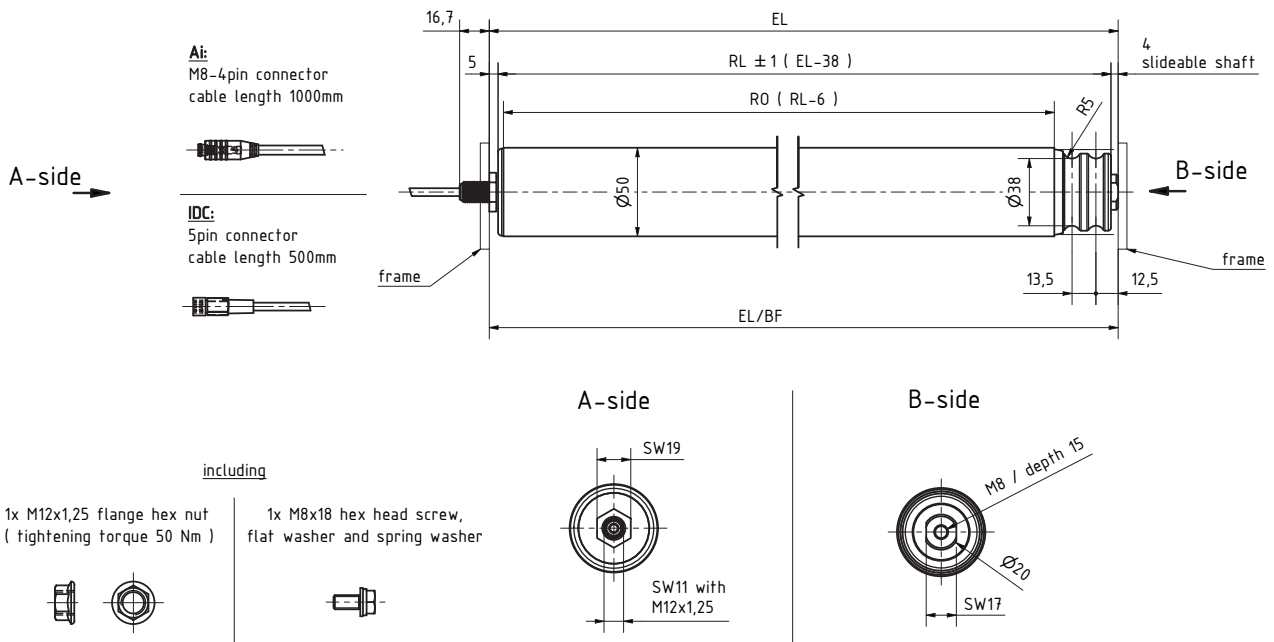
Standard (IP54), Grooved tube (1 or 2 grooves)
Non threaded hex SW11 / M8 internal thread



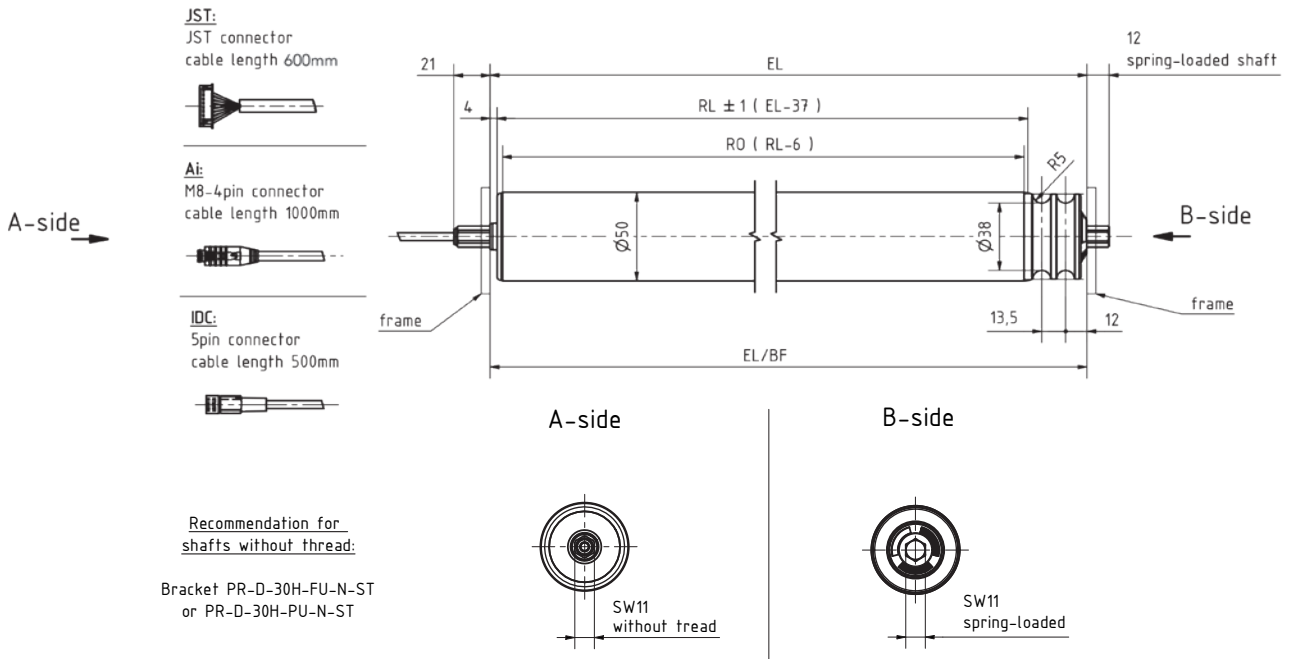
Standard (IP54), Roundbelt head
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



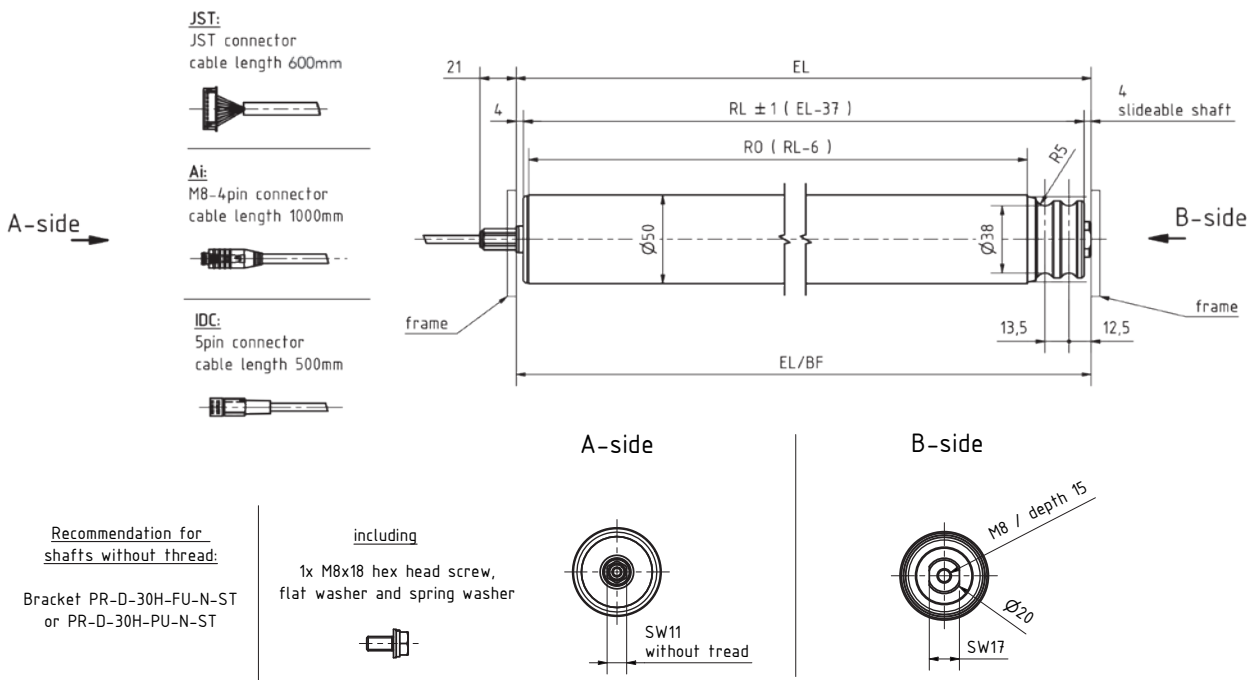
Standard (IP54), Roundbelt head
M12x1,25 threaded hex SW11 / M8 internal thread



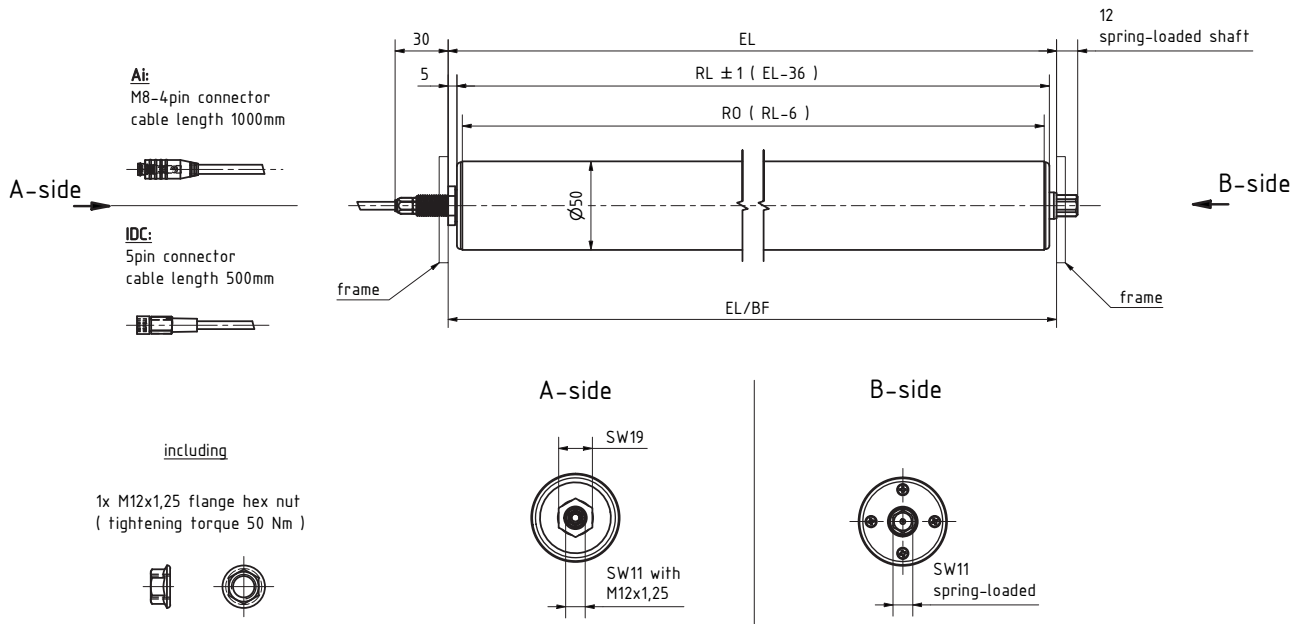
Standard (IP54), Roundbelt head
Non threaded hex SW11 / Spring-loaded hex SW11



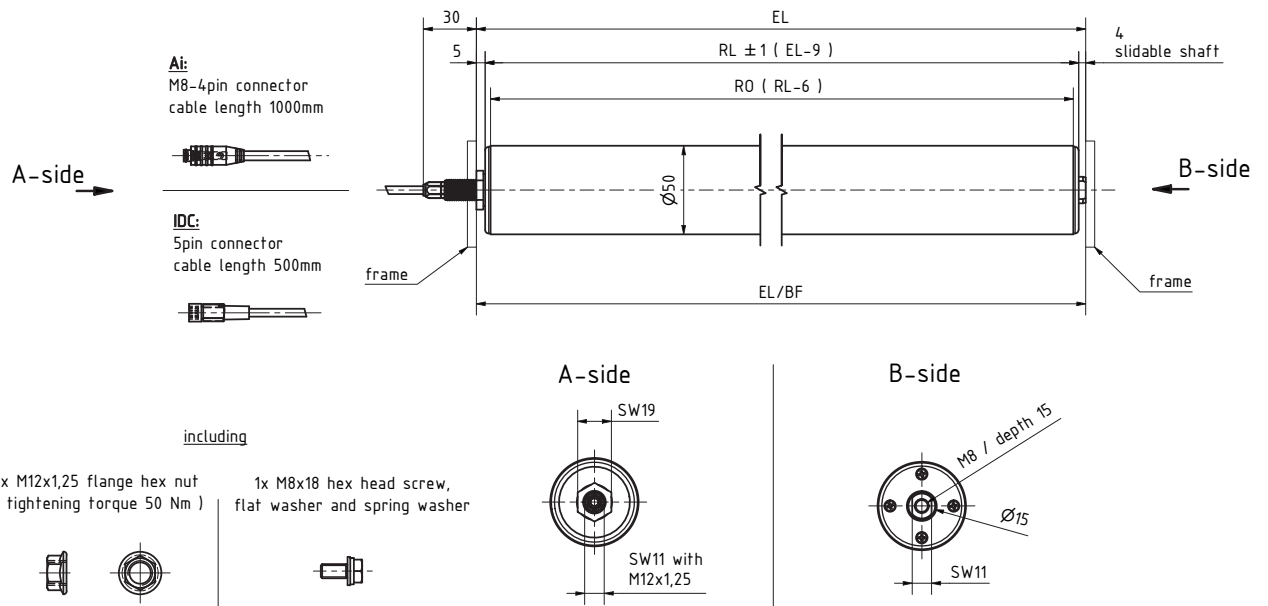
Standard (IP54), Roundbelt head
Non threaded hex SW11 / M8 internal thread



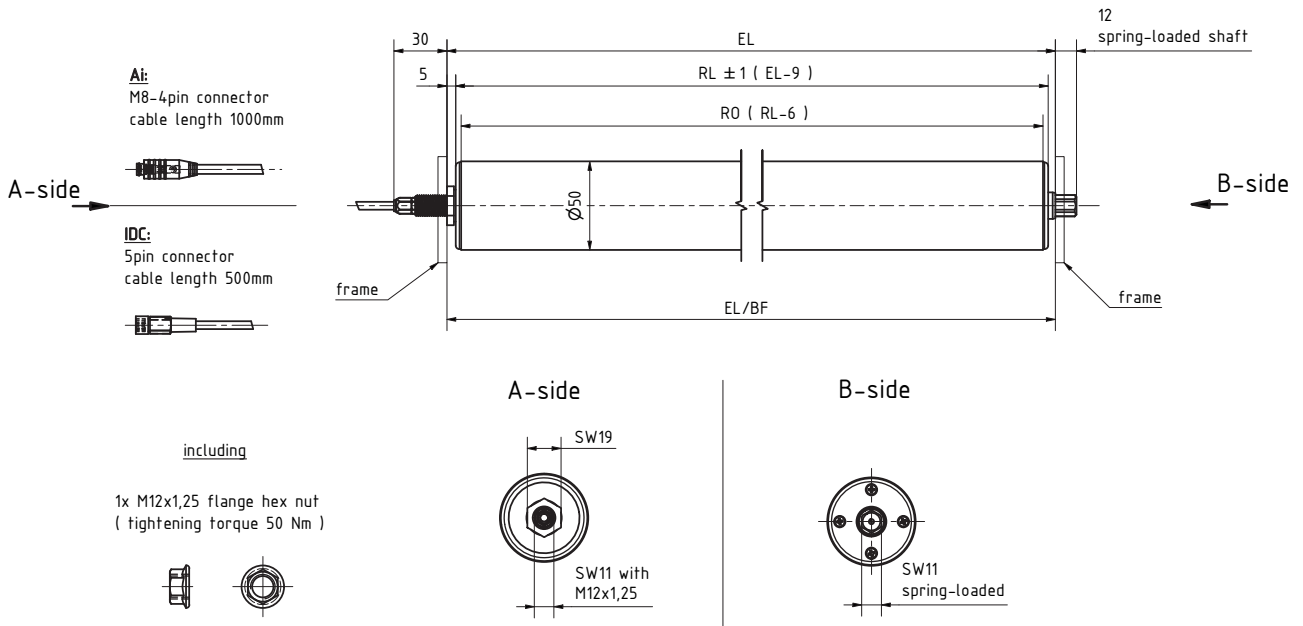
WashDown (IP66/IP69K), No interlocking
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



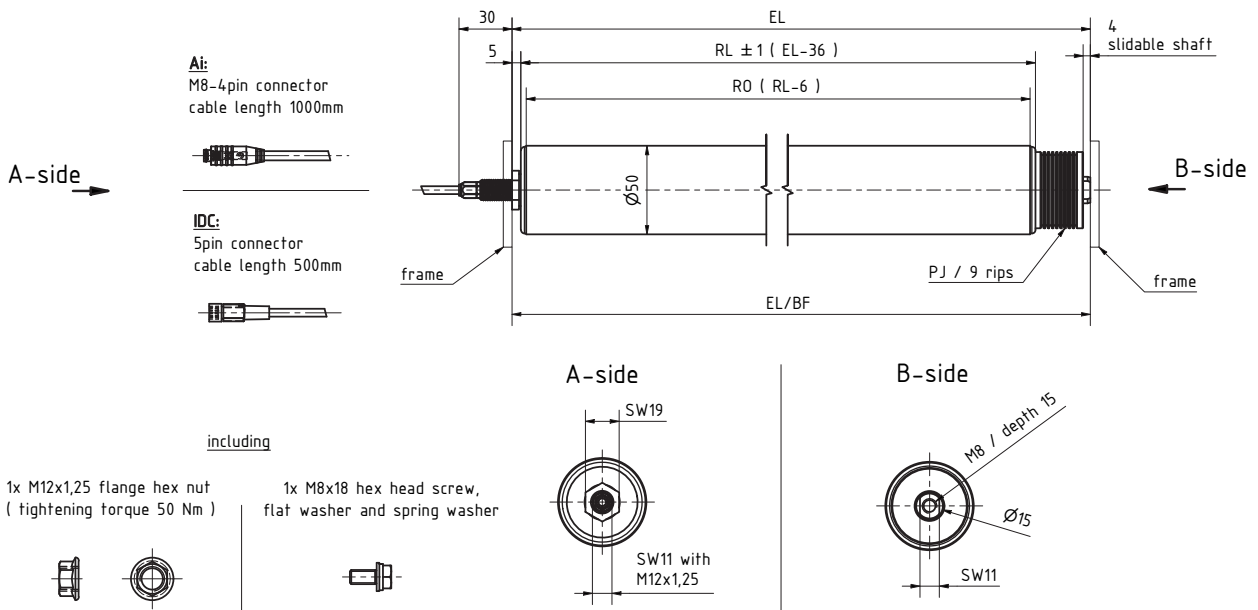
WashDown (IP66/IP69K), No interlocking
M12x1,25 threaded hex SW11 / M8 internal thread



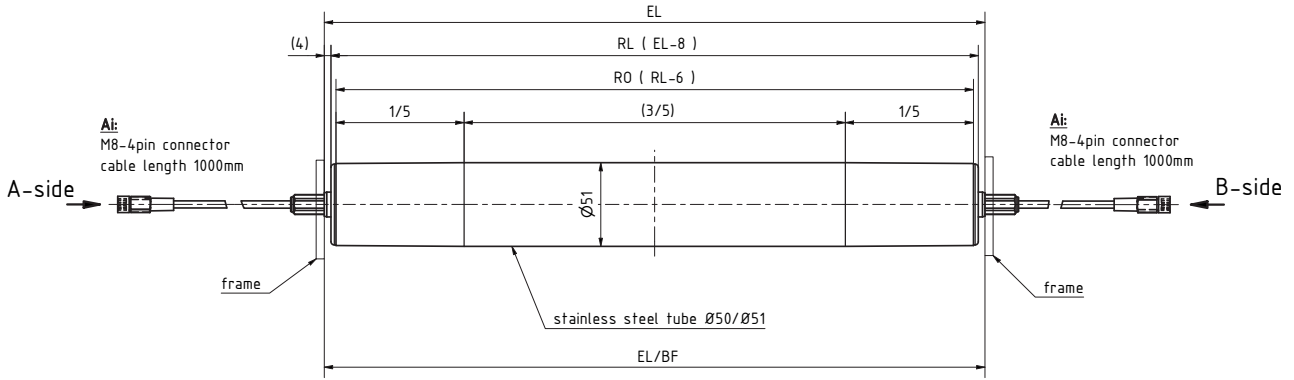
WashDown (IP66/IP69K), PolyV-Head
M12x1,25 spring-loaded hex SW11 / M8 internal thread



WashDown (IP66/IP69K), PolyV-Head
M12x1,25 spring-loaded hex SW11 / M8 internal thread



Dual Drive, Crowned, Stainless Steel (IP54), No interlocking



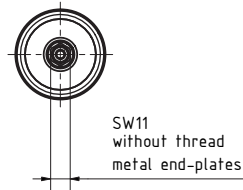
A-side / B-side

valid for:
Senergy Ai and Senergy X
PR-DD-5x-xxx-xxJxAQ

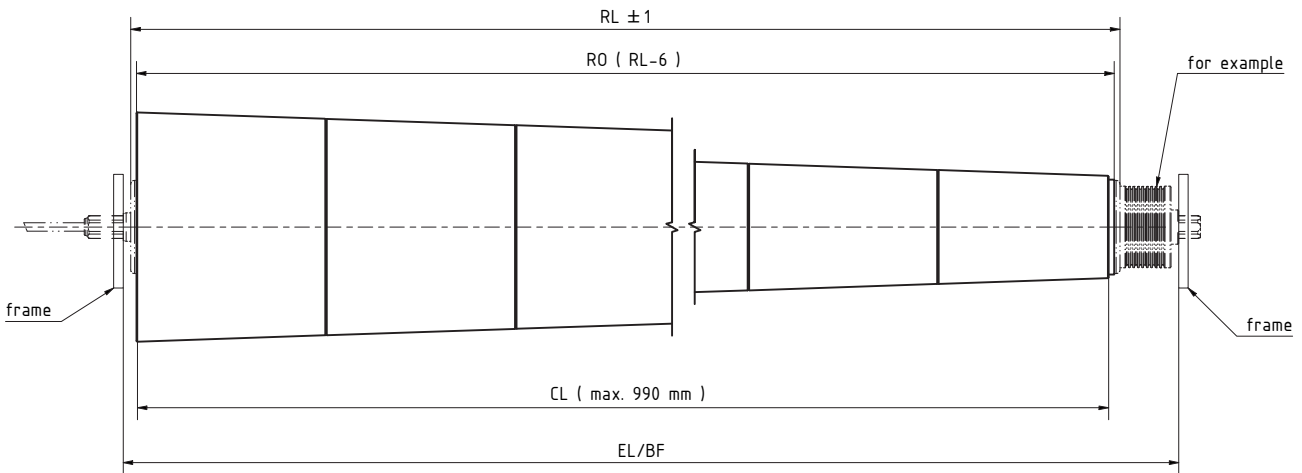
Also available with straight tube and in IP66/IP69K and freezer rated

Recommendation: Metal end plates and shafts without thread in combination with our Brackets PR-D-30H-FU-N-ST / PU-N-ST

Other versions on request (Y)



**Conical Roller (also available as IP54, IP66, IP69K)
1,8° conicity for roller curves**

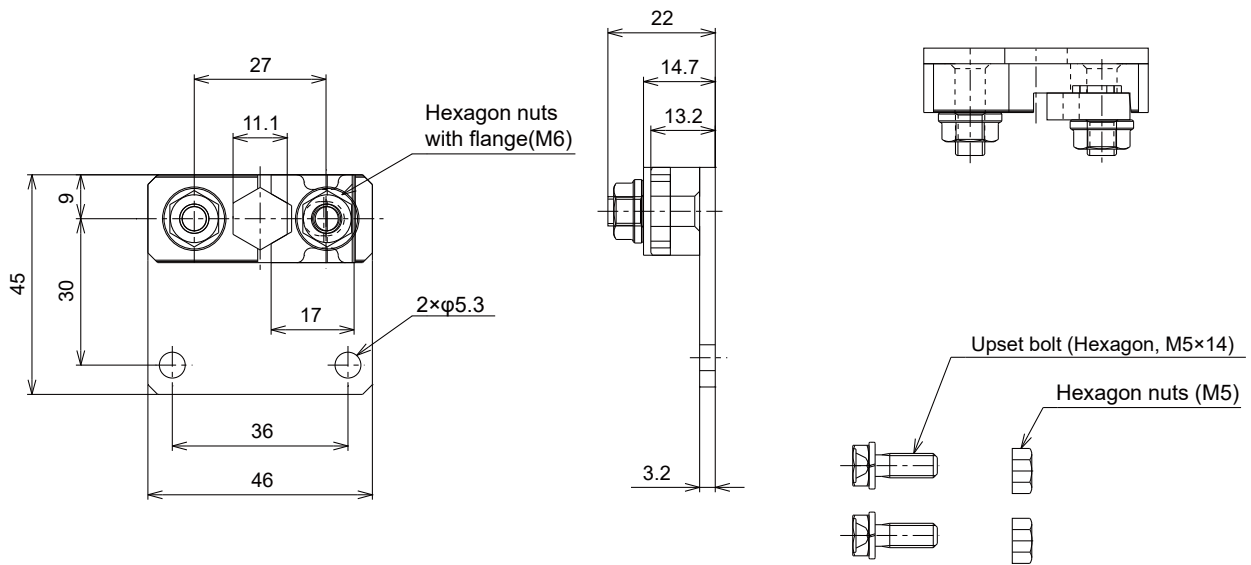


Conical segments available for all types of motors and drive heads

CL 350/390/.../950/990mm
other length on request

Recommendation: motor side with non-threaded shaft + Bracket
PR-TD-30H-FU-N-ST or PR-TD-30H-PU-N-ST

Bracket (Cable End Shaft)
Cable Side - Point-Up

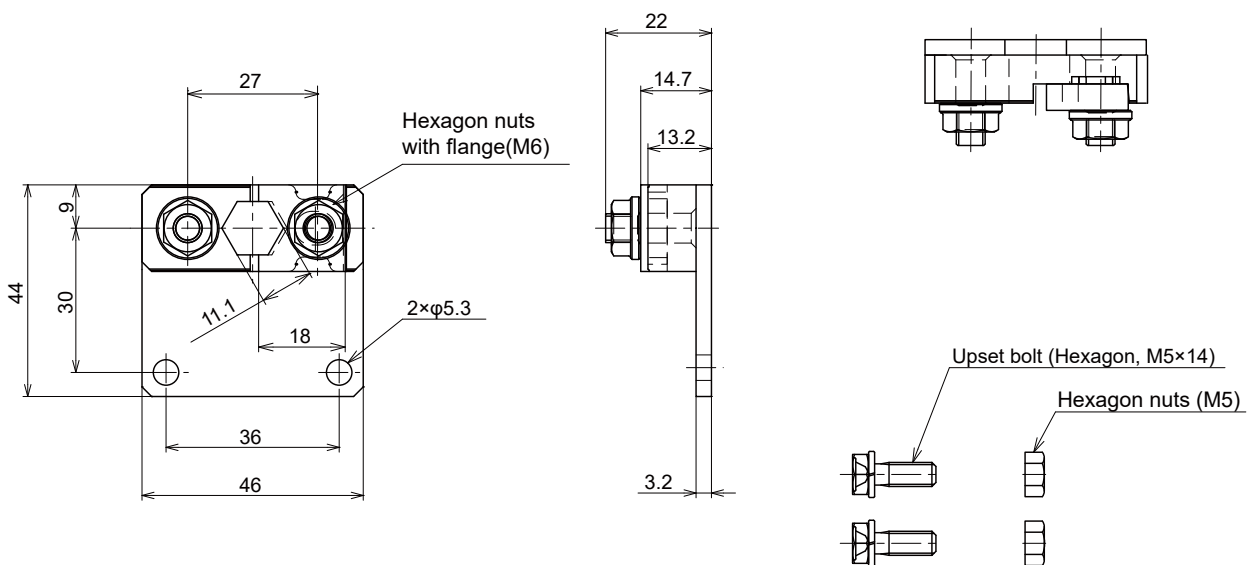


Note:

Tightening torque (M6): 8 ~ 10 Nm

Tightening torque (M5): 2,3 ~ 3,5 Nm

Bracket (Cable End Shaft)
Cable Side - Flat-Up

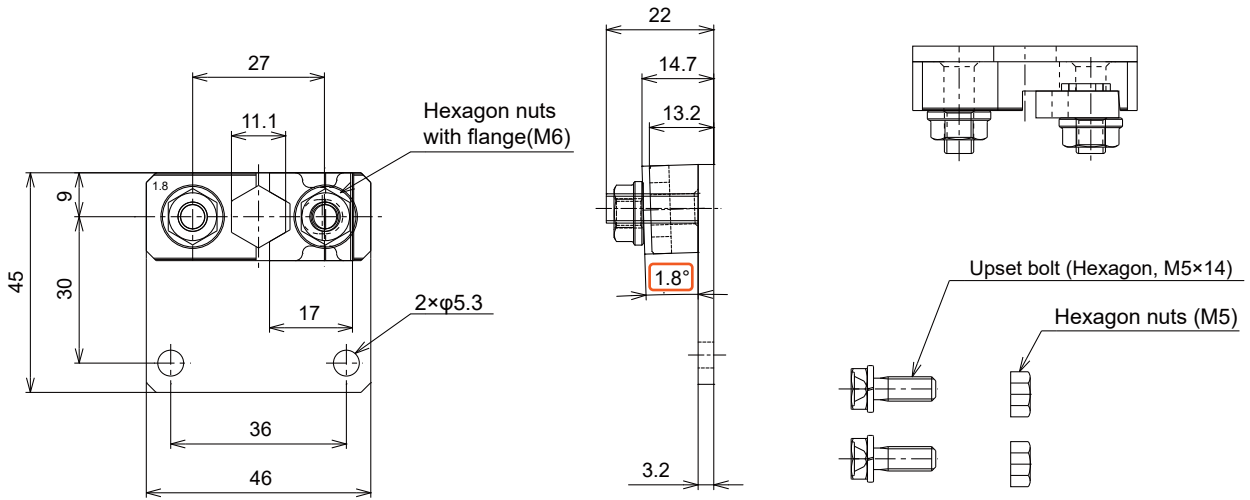


Note:

Tightening torque (M6): 8 ~ 10 Nm

Tightening torque (M5): 2,3 ~ 3,5 Nm

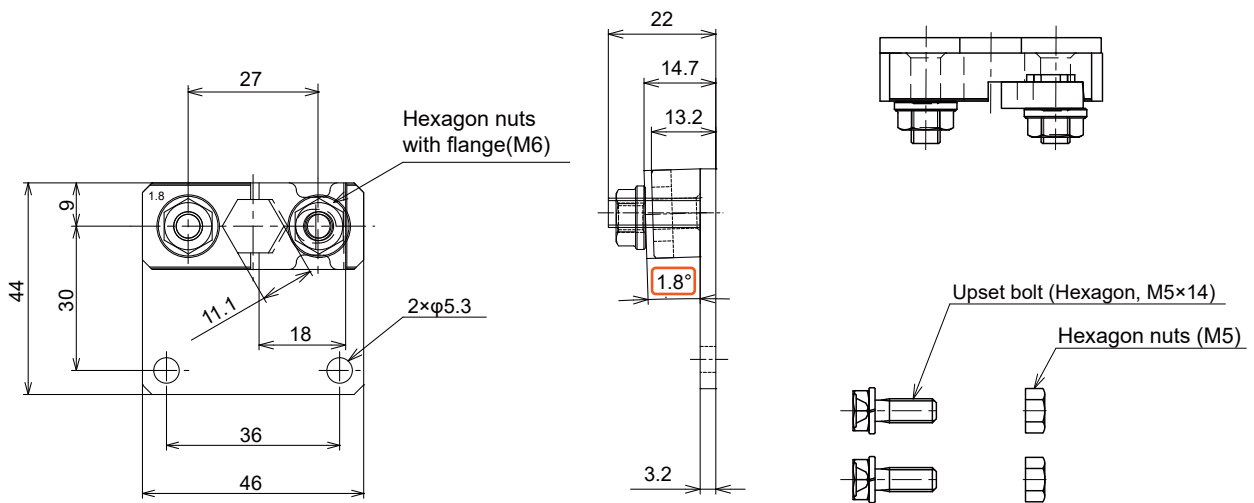
Bracket for Conical Roller (Cable End Shaft)
Cable Side - Point-Up



Note:
 Tightening torque (M6): 8 ~ 10 Nm
 Tightening torque (M5): 2,3 ~ 3,5 Nm

Brackets are designed for 1,8 degree Tapered rollers and NOT intended for any other Taper angle.

Bracket for Conical Roller (Cable End Shaft)
Cable Side - Flat-Up



Note:
 Tightening torque (M6): 8 ~ 10 Nm
 Tightening torque (M5): 2,3 ~ 3,5 Nm

Brackets are designed for 1,8 degree Tapered rollers and NOT intended for any other Taper angle.



Geared Drives

**There is more to drive
than just the rollers.**



Product Overview

PGD-Ai 24V | 48V



Our Geared Motor as pneumatics alternative with M8-4Pin connection.

PGD-Ai WashDown 24V | 48V



Our Geared Motor as pneumatics alternative with M8-4Pin connection and IP66 sealing for damp environments.

PGD-IDC



Our Motor Roller with integrated commutation electronics for applications using third-party controls with 5Pin connection.

PGD-JST 24V | 48V



Our Geared Motor as pneumatics alternative with 9-Pin JST connection.

PGD-Ai

24V | 48V



Combine high torque and efficiency in a small package.

The PGD-Ai 24V | 48V is our standard versatile gear motor which is able to replace traditional pneumatics and AC drives. As a relatively small gear motor it is the perfect product for tight spaces. It gives you the opportunity to standardise your controls architecture and bus systems in your complete system, which results in higher efficiency.

Benefits

- **Reliable mechanical design**
- **Versatile in use**
- **Replaces classical pneumatics**
- **Precise positioning**
- **Excellent life expectancy**
- **High overload capacity**
- **High acceleration torque**



Features

- **Brushless 24V DC motor**
- **Double bearing output shaft**
- **External motor controller**
- **M8-4Pin standard connector**
- **Internal data memory**
- **Remote control versatility and diagnostics**



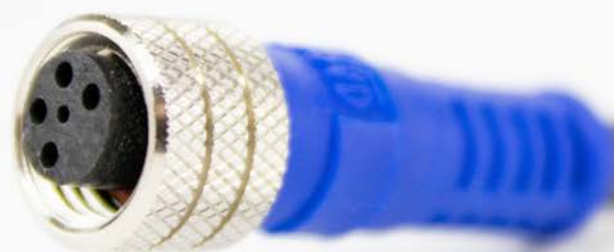
Purchasing of Pulseroller products such as powered rollers, geared motors, transfer units and controls from one source means reduced purchase and design time as well as associated costs. No pneumatics or any secondary communication bus required.

Due to one shop sourcing, the mechanical and electrical design of

conveyors will be less expensive, easier to maintain and more straight forward. Virtually all functionality required in conveyors can be controlled and driven by Pulseroller products. In most cases pneumatic actuators can be completely replaced. Compactness is the key for PGD-Ai which can be applied in many different applications including its use as a servomotor for pop up wheels, or

as a belt drive and lift motor in transfer units. Used in combination with the positioning control of ConveyLinX, it is the perfect solution.

PGD-Ai can't be mounted vertically in order to avoid unexpected product failures. Pulseroller PGD-Ai opens up a new world of cost effective, reliable servo drive applications.



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output:** 50W
- **Protection Class:** IP54
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A
- **Connection:** M8-4Pin connector, 9-Pin JST connector
- **Ambient Temperature:** -30°C – 0°C (Freezer) | -10°C – +40°C (Standard)
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Characteristics Data PGD-Ai and PGD-JST 24V in Eco-Mode and Boost-Mode

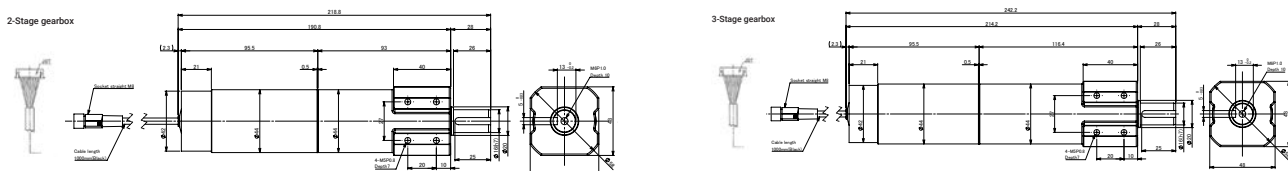
Gear Ratio	Gearbox	Max. Speed min-1*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
67:1	3-stage	86	62	4,02	7,24	6,63	11,94
45:1		129	93	2,70	4,86	4,46	8,02
33:1		176	127	1,98	3,56	3,27	5,88
27:1		215	156	1,62	2,92	2,67	4,81
18:1	2-stage	316	229	1,20	2,16	1,98	3,56
15:1		387	280	1,00	1,80	1,65	2,97
11:1		527	382	0,73	1,32	1,21	2,18
9:1		644	467	0,60	1,08	0,99	1,78

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Weight of PGD-Ai 24V | 48V and PGD-JST 24V

Gear Ratio	Gearbox	Weight (in kg)
67/45/33/27:1	3-stage	1,5
18/15/11/9:1	2-stage	1,2

Dimensions of PGD-Ai 24V | 48V and PGD-JST 24V



General Technical Data

- **Voltage:** 48V DC
- **Nominal Output:** Up to 60W
- **Protection Class:** IP54
- **Rated Current:** 1,7A
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -30°C – 0°C (Freezer) | -10°C – +40°C (Standard)
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Basic Characteristics Data PGD-Ai 48V

Gear Ratio	Gearbox	Max. Speed min -1 (Rotational speed [rpm])*	Torque (in Nm)							Output (W)	Current (A)	Current (A)
			Rated Torque	Acceleration @ Current limit					Holding Torque			
				1,7 A	2,0 A	2,5 A	3,5 A	4,0 A				
11:1	2-stage	637,5	0,90	1,12	1,20	1,40	1,80	1,99	1,86	60W	1,7A	4,0A
15:1		466,7	1,23	1,53	1,64	1,91	2,45	2,71	2,54			
18:1		382,5	1,51	1,86	2,00	2,33	2,99	3,30	3,10			
33:1	3-stage	212,5	2,37	3,36	3,60	4,19	5,40	5,96	5,82	52W		
45:1		155,6	3,23	4,58	4,91	5,72	7,36	8,12	7,94			

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Advanced Characteristics Data PGD-Ai 48V

Gearbox	Gear Ratio	Output (W) @ 20°C	Derating (%/K)	Overload
2-stage	11:1	60W	-0,66%	218%
	15:1			
	18:1			
3-stage	33:1	52W	-0,84%	252%
	45:1			

PGD-Ai WashDown

24V | 48V



High torque, efficiency and IP66 sealing combined for all conditions.

The WashDown version of the tried-and-tested PGD-Ai geared motor has been specifically developed for use in damp environments.

It is characterised by a special housing that guarantees optimum protection. Both the sealing system and the housing have been subjected to intensive testing in accordance with IP66 standards to ensure maximum resistance.

Thanks to the integration of Ai technology, the PGD offers versatility as a servomotor for a wide range of applications. The use of the same control systems as the motorised rollers ensures seamless and optimally coordinated control continuity within systems.

Benefits

- Reliable mechanical design
- Versatile in use
- Replaces classical pneumatics
- Precise positioning
- Excellent life expectancy
- High overload capacity
- High acceleration torque

Features

- IP66 sealing
- Brushless 24V DC motor
- Double bearing output shaft
- External motor controller
- M8-4Pin standard connector
- Internal data memory
- Remote control versatility and diagnostics



M8-4Pin connector

General Technical Data

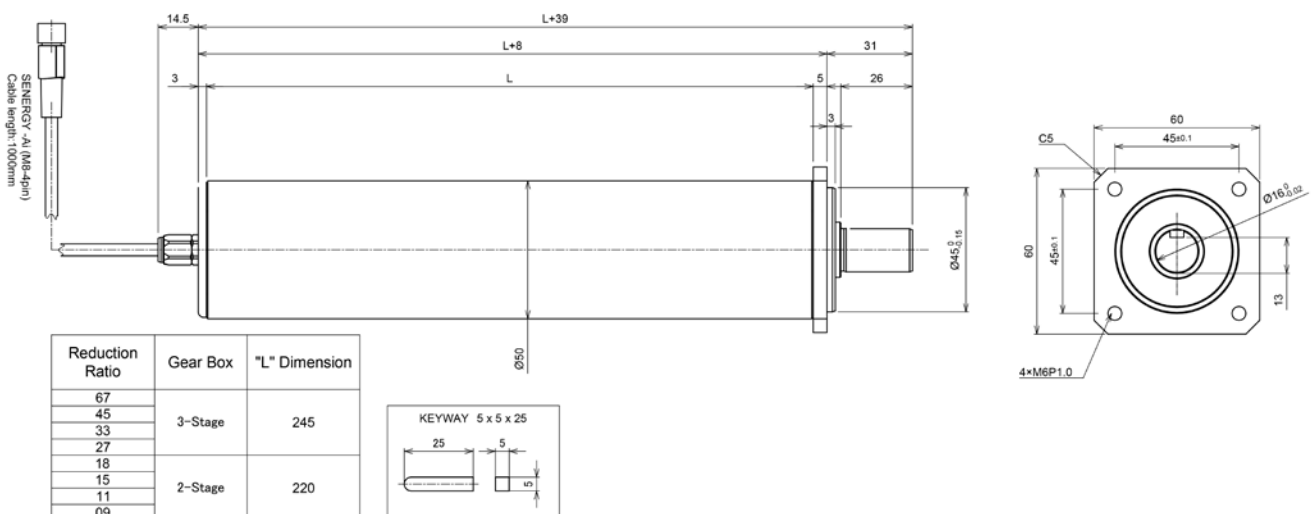
- **Voltage:** 24V DC
- **Nominal Output:** 50W
- **Protection Class:** IP66
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A
- **Connection:** M8-4Pin connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Characteristics Data PGD-Ai 24V WashDown in Eco-Mode and Boost-Mode

Gear Ratio	Gearbox	Max. Speed min-1*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
67:1	3-stage	86	62	4,02	7,24	6,63	11,94
45:1		129	93	2,70	4,86	4,46	8,02
33:1		176	127	1,98	3,56	3,27	5,88
27:1		215	156	1,62	2,92	2,67	4,81
18:1	2-stage	316	229	1,20	2,16	1,98	3,56
15:1		387	280	1,00	1,80	1,65	2,97
11:1		527	382	0,73	1,32	1,21	2,18
9:1		644	467	0,60	1,08	0,99	1,78

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Dimensions of PGD-Ai 24V | 48V WashDown



General Technical Data

- **Voltage:** 48V DC
- **Nominal Output:** Up to 60W
- **Protection Class:** IP66
- **Rated Current:** 1,7A
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Basic Characteristics Data PGD-Ai 48V WashDown

Gear Ratio	Gearbox	Max. Speed min -1 (Rotational speed [rpm])*	Torque (in Nm)						Holding Torque	Output (W)	Current (A)	Current (A)
			Rated Torque	Acceleration @ Current limit								
				1,7 A	2,0 A	2,5 A	3,5 A	4,0 A		Perma- nent	Rated Current	Max. Current
11:1	2-stage	637,5	0,90	1,12	1,20	1,40	1,80	1,99	60W	1,7A	4,0A	
15:1		466,7	1,23	1,53	1,64	1,91	2,45	2,71				
18:1		382,5	1,51	1,86	2,00	2,33	2,99	3,30				
33:1	3-stage	212,5	2,37	3,36	3,60	4,19	5,40	5,96	52W			
45:1		155,6	3,23	4,58	4,91	5,72	7,36	8,12				

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Advanced Characteristics Data PGD-Ai 48V

Gearbox	Gear Ratio	Output (W) @ 20°C	Derating (%/K)	Overload
2-stage	11:1	60W	-0,66%	218%
	15:1			
	18:1			
3-stage	33:1	52W	-0,84%	252%
	45:1			

Weight of PGD-Ai 24V | 48V WashDown

Gear Ratio	Gearbox	Weight (in kg)
67/45/33/27:1	3-stage	2,5
18/15/11/9:1	2-stage	2,2

PGD

IDC



Combine high torque and efficiency with the 3rd party control of your choice.

The PGD-IDC is our standard versatile gear motor which is able to replace traditional pneumatics and AC drives. As a relatively small gear motor it is the perfect product for tight spaces. With its 5 Pin connector you are able to connect and run it with the 3rd party control of your choice!

Benefits

- **Reliable mechanical design**
- **Versatile in use**
- **Replaces classical pneumatics**
- **Precise positioning**
- **Excellent life expectancy**
- **High overload capacity**
- **High acceleration torque**



Features

- **Brushless 24V DC motor**
- **Double bearing output shaft**
- **5Pin connector**
- **Select between 2- or 3-stage gearbox**

The IDC principle makes it possible to connect this robust and reliable geared motor to third-party control systems as well as to control systems developed

in-house. This results in a compact and extremely reliable drive solution that has been specially developed for this area of application.



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output:** Up to 38W
- **Protection Class:** IP54 (also available as IP66)
- **Rated Current:** 2,4A
- **Starting Current:** 3,0A
- **Connection:** 5Pin connector
- **Ambient Temperature:** -30°C – 0°C (Freezer) | -10°C – +40°C (Standard)
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Basic Characteristics Data PGD-IDC

Gear Ratio	Gearbox	Rotations/Minute*		Rated Torque (Nm) @20°C	Acceleration Torque (Nm)	Starting Torque (Nm)
		Min.	Max.			
11:1	2-stage	528		0,69	1,10	2,5
15:1		386		0,94	1,5	3,4
18:1		316		1,15	1,84	4,2
33:1	3-stage	176		1,86	3,03	7,5
45:1		128		2,53	4,15	10,3
67:1		8		86	128	128

* Speed regulation according to input voltage.

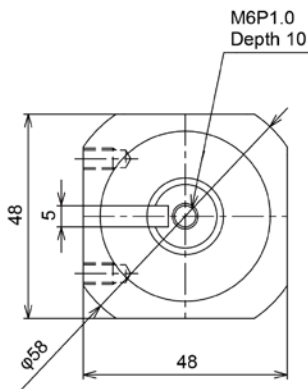
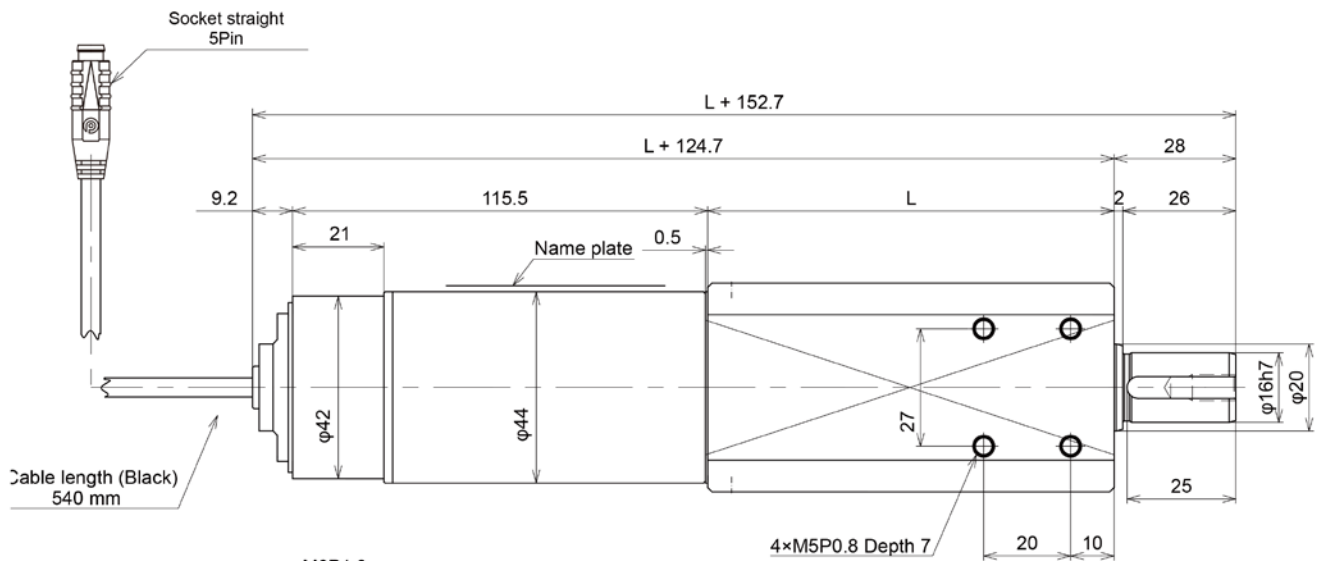
Advanced Characteristics Data PGD-IDC

Gearbox	Mech. Output (W) @ 20°C	Derating (%/K)	Overload
2-stage	38W	-1,1%	163%
3-stage	34W	-1,2%	146%

Weight of PGD-ICD

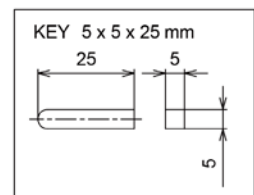
Gear Ratio	Gearbox	Weight (in kg)
45/33:1	3-stage	1,6
18/15/11:1	2-stage	1,4

Dimensions of PGD-ICD



“L” dimension

2-stage	93.5 mm
3-stage	116.9 mm



PGD-JST

24V



Combine high torque and efficiency in a small package.

The PGD-JST and PGD-JST-B 24V is our standard versatile gear motor, with 9Pin JST connector, which is able to replace traditional pneumatics and AC drives. As a relatively small gear motor it is the perfect product for tight spaces. It gives you the opportunity to standardise your controls architecture and bus systems in your complete system, which results in higher efficiency.

Benefits

- **Reliable mechanical design**
- **Versatile in use**
- **Replaces classical pneumatics**
- **Precise positioning**
- **Excellent life expectancy**
- **High overload capacity**
- **High acceleration torque**



Features

- **Brushless 24V DC motor**
- **Double bearing output shaft**
- **External motor controller**
- **9-Pin JST standard connector**
- **Internal data memory**
- **Remote control versatility and diagnostics**



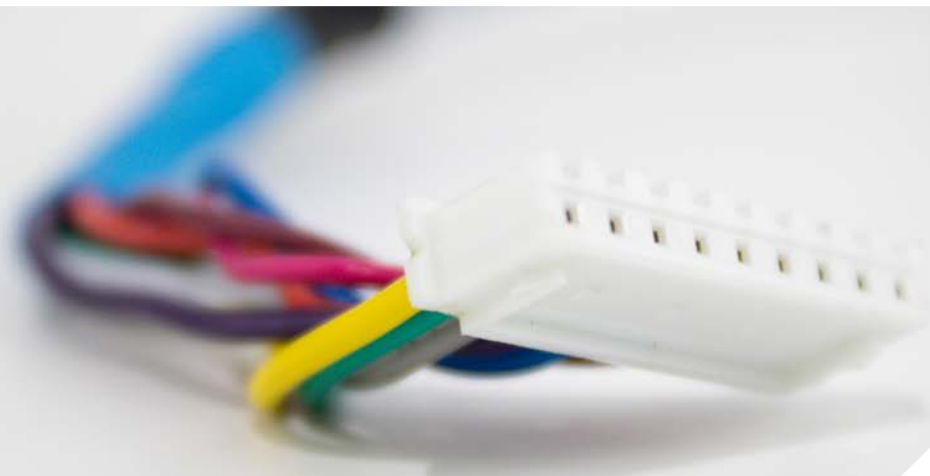
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Due to one shop sourcing, the mechanical and electrical design of

conveyors will be less expensive, easier to maintain and more straight forward. Virtually all functionality required in conveyors can be controlled and driven by Pulseroller products. In most cases pneumatic actuators can be completely replaced. Compactness is the key for PGD-JST and PGD-JST-B which can be applied in many different applications including its use as a servomotor for

pop up wheels, or as a belt drive and lift motor in transfer units. Used in combination with the positioning control of ConveyLinX, it is the perfect solution. PGD-JST and PGD-JST-B can't be mounted vertically in order to avoid unexpected product failures.

Pulseroller PGD-JST and PGD-JST-B opens up a new world of cost effective, reliable servo drive applications.



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output:** 50W
- **Protection Class:** IP54
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A
- **Connection:** M8-4Pin connector, 9-Pin JST connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Characteristics Data PGD-JST and PGD-JST-B 24V in Eco-Mode and Boost-Mode

Gear Ratio	Gearbox	Max. Speed min-1*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
67:1	3-stage	86	62	4,02	7,24	6,63	11,94
45:1		129	93	2,70	4,86	4,46	8,02
33:1		176	127	1,98	3,56	3,27	5,88
27:1		215	156	1,62	2,92	2,67	4,81
18:1	2-stage	316	229	1,20	2,16	1,98	3,56
15:1		387	280	1,00	1,80	1,65	2,97
11:1		527	382	0,73	1,32	1,21	2,18
9:1		644	467	0,60	1,08	0,99	1,78

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

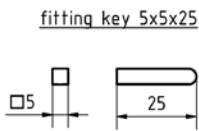
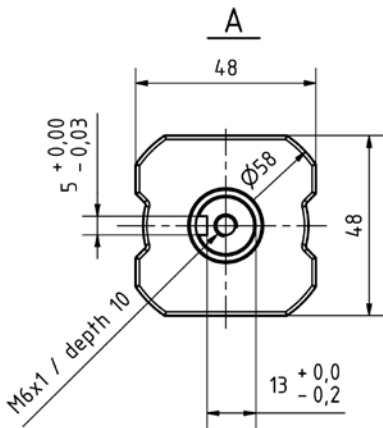
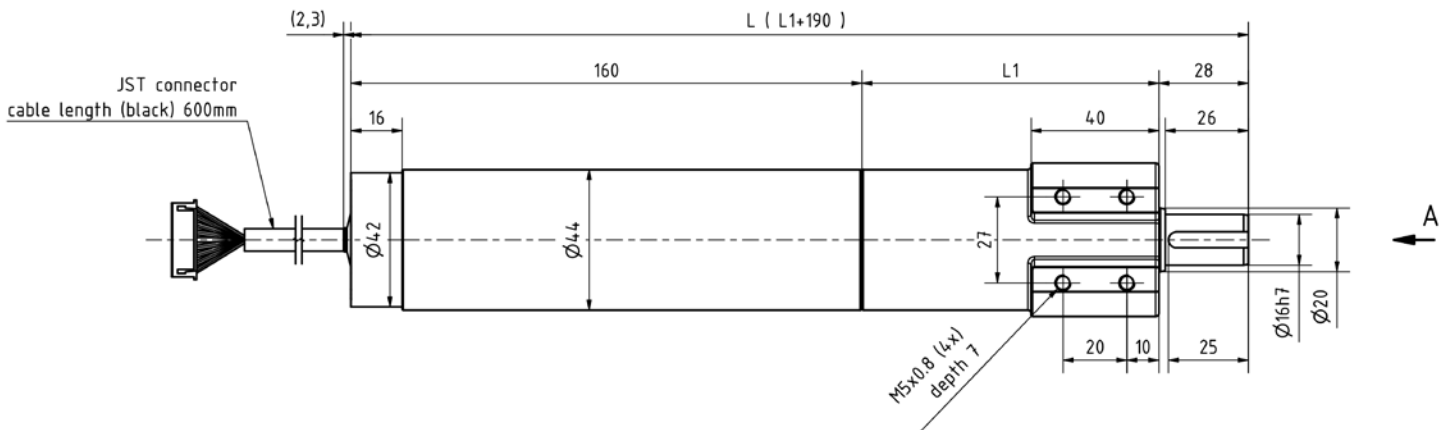
Weight of PGD-JST 24V

Gear Ratio	Gearbox	Weight (in kg)
67/45/33/27:1	3-stage	1,5
18/15/11/9:1	2-stage	1,2

Weight of PGD-JST-B 24V

Gear Ratio	Gearbox	Weight (in kg)
67/45/33/27:1	3-stage	2,0
18/15/11/9:1	2-stage	1,7

Dimensions of PGD-JST-B 24V



Reduction ratio	Gear box	"L" dimension	"L1" dimension
67	3-stage	306,7	116.4
45			
33			
27			
18	2-stage	283,3	93
15			
11			
09			



Controls

Complexity simplified.



Product Overview

Networked Drive Controls



ConveyLinx-Ai2 24V

Our Two Zone Network Control.



ConveyLinx-Ai2 48V

Our Two Zone Network Control for 48V applications.



ConveyLinx-Ai2-F 24V

Our Two Zone Network Control for Freezer Applications.



ConveyLinx-Ai3-RC/FC 24V

Our Two Zone Network Control with Piercing Technology for Flat and Round Cable.



ConveyLinx-Ai3-FC 48V

Our Two Zone Network Control with Piercing Technology for Flat Cable for 48V applications.



ConveyLinx-Ai3-FCM 24V

Our Two Zone Network Control with Piercing Technology and M12 bus connectors.



ConveyLinx-Ai3-FCM 48V

Our Two Zone Network Control with Piercing Technology and M12 bus connectors for 48V applications.



MotionLinx-Ai

Our Two Zone High-Speed Control, especially designed for EtherCat.



ConveyProxy

Our Gateway for systems with ConveyLinx controls to reduce the number of IP-addresses.

iew



ConveyLinx-JST-B 24V

Our Two Zone Network Control for brake motor rollers with 9-Pin JST connector.

Simple Drive Controls



EQUBE-Ai 24V

Our Motor Control for a drive without bus connection with M8-4Pin connection.



EZ-QUBE-Ai 24V

Our Motor Control for a drive without bus connection with JST-9Pin connection.



EZ-QUBE-W-Ai 24V

Our Motor Control for a drive with Bluetooth configuration and extended diagnostics with M8-4Pin connection.

I/O Modules



ConveyLinx-IO

Our Input/Output Module based on the ConveyLinx-Ai2.



MotionLinx-IO

Our Input/Output Module based on the MotionLinx-Ai.



IO X Interface

Our Interface Module for the conversion of the NPN output on ConveyLinx into a usable PNP.

ConveyLinx-Ai2

24V



The ConveyLinx-Ai2 24V gives you the opportunity to control our motor rollers and geared drives with M8-4Pin connection. You can use our ConveyLinx-Ai2 24V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured system with complex applications. It gives you the power of free decision-making.

Two Zone Network Control for 24V Motor Roller and Geared Drives.

A zero-pressure accumulation conveyor can be controlled by ConveyLinx-Ai2 fully autonomously without the use of a PLC. Alternatively, if a higher-level control is preferred, a PLC can be integrated using ProfiNet, Ethernet IP, Modbus TCP and CCLink. However, the PLC does not need to control every zone, it need only control a limited number of decision points. If the application is to be fully controlled by a PLC, the configuration and control of all ConveyLinx-Ai2's can be made using the Topology from TIA Portal or STEP

7. Nevertheless, the use of ConveyLinx-Ai2's internal logic is still possible and thus relieves the source code of the PLC.

ConveyLinx-Ai2 offers extensive diagnostic tools for the drives. This enables a cost-effective preventive maintenance program drastically reducing unplanned downtime. Senergy-Ai and PGD-Ai are easily connected via proven and robust standard M8-4Pin connectors for a plug-in safe and fast mechanical installation.

Benefits

- **Small footprint for easy installation inside the side-frame**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **4 Ethernet protocols**
- **Significant reduction of PLC source code**
- **Fully integrated in topology configuration**

Features

- **Two-Zone motor control**
- **Profinet and ODVA approved**
- **Connection for 2 motors and 4 sensors**
- **Tracking data handling**
- **Advanced diagnostic functions**
- **Internal ZPA logics**



4-Pin M8 standard connector



4-Pin M8 standard connector on ConveyLinx



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Rated Current:** ECO: 5,0A | BOOST: 7,0A with two drives
- **Starting Current:** ECO: 6,0A | BOOST: 10,0A with two drives
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Supported Fieldbus systems



Ethernet/IP™
ODVA

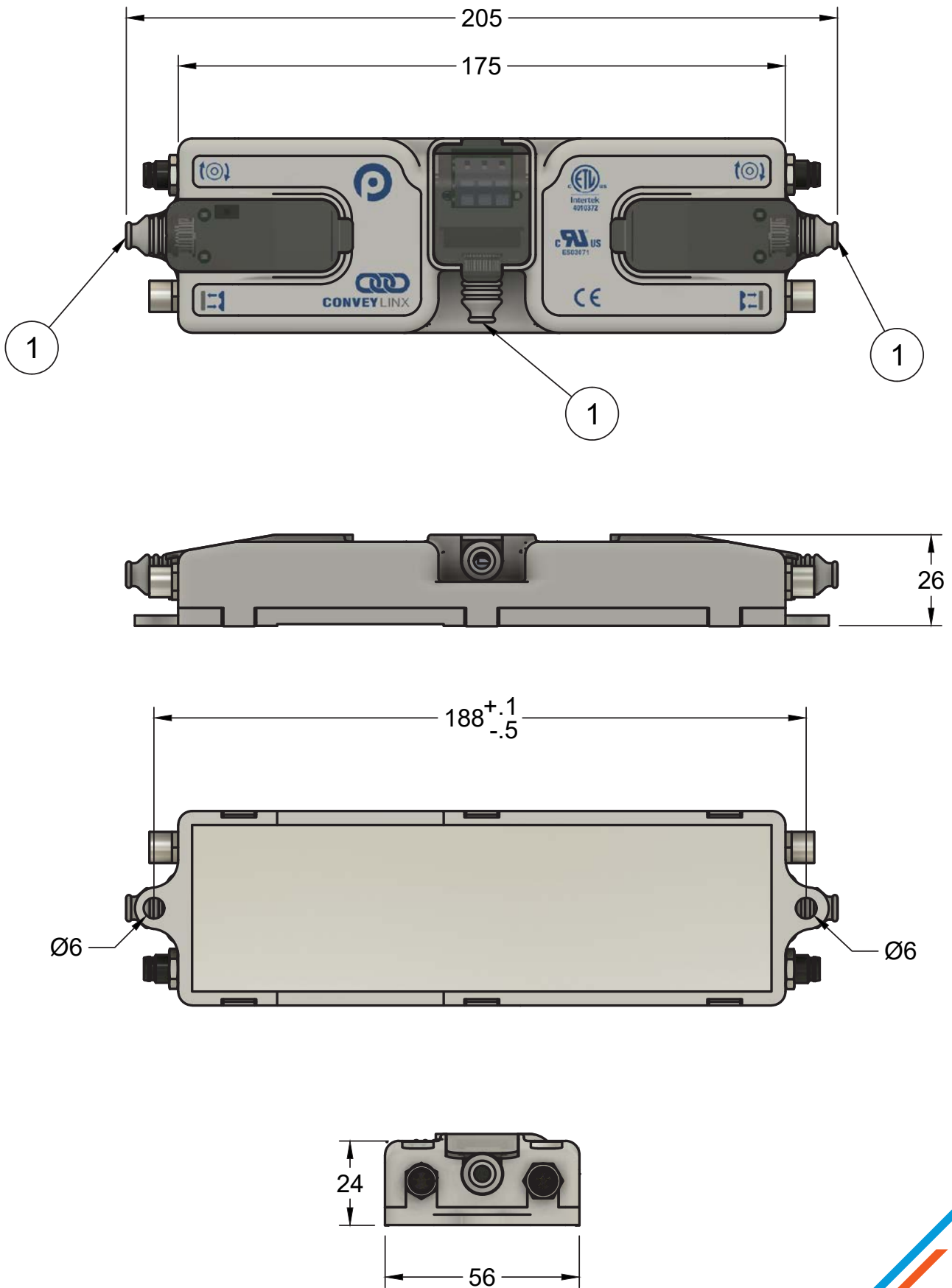


CC-Link IE Field Basic

All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-Ai2



1 - Cable Shrouds are shipped unattached and are field installed.

ConveyLinx-Ai2

48V



The ConveyLinx-Ai2 48V gives you the opportunity to control our motor rollers and geared drives with M8-4Pin connection. You can use our ConveyLinx-Ai2 48V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured system with complex applications. It gives you the power of free decision-making.

Two Zone Network Control for 48V Motor Roller and Geared Drives.

In the simplest case, zero pressure accumulation conveyor technology can be controlled autonomously using the integrated logic and therefore completely without a PLC.

If required, a PLC can also be connected as a higher-level controller via ProfiNet, which can only intervene in the conveyor process if necessary. If a complex system is to be controlled as a whole by the PLC, all ConveyLinx-Ai 48V can be configured and controlled directly from TIA Portal or STEP7 using topology.

Nevertheless, it is still possible to use the internal logic, thus relieving the source code of the PLC. ConveyLinx-Ai2 48V offers extensive diagnostic tools for the connected drives, which enable cost-saving, targeted system maintenance.

This drastically reduces unplanned system downtimes. Senergy-Ai 48V and PGD-Ai 48V are simply connected via tried-and-tested, robust four-pole standard M8 connectors.

This ensures quick and reliable mechanical installation.

Benefits

- **Small footprint for easy installation inside the side-frame**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **4 Ethernet protocols**
- **Significant reduction of PLC source code**
- **Fully integrated in topology configuration**

Features

- **Two-Zone motor control**
- **Profinet and ODVA approved**
- **Connection for 2 motors and 4 sensors**
- **Tracking data handling**
- **Advanced diagnostic functions**
- **Internal ZPA logics**



4-Pin M8 standard connector



4-Pin M8 standard connector on ConveyLinx



General Technical Data

- **Voltage:** 48V DC
- **Protection Class:** IP54
- **Rated Current:** 1,6A* per motor
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A* per motor
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

*Current limiting option selectable.

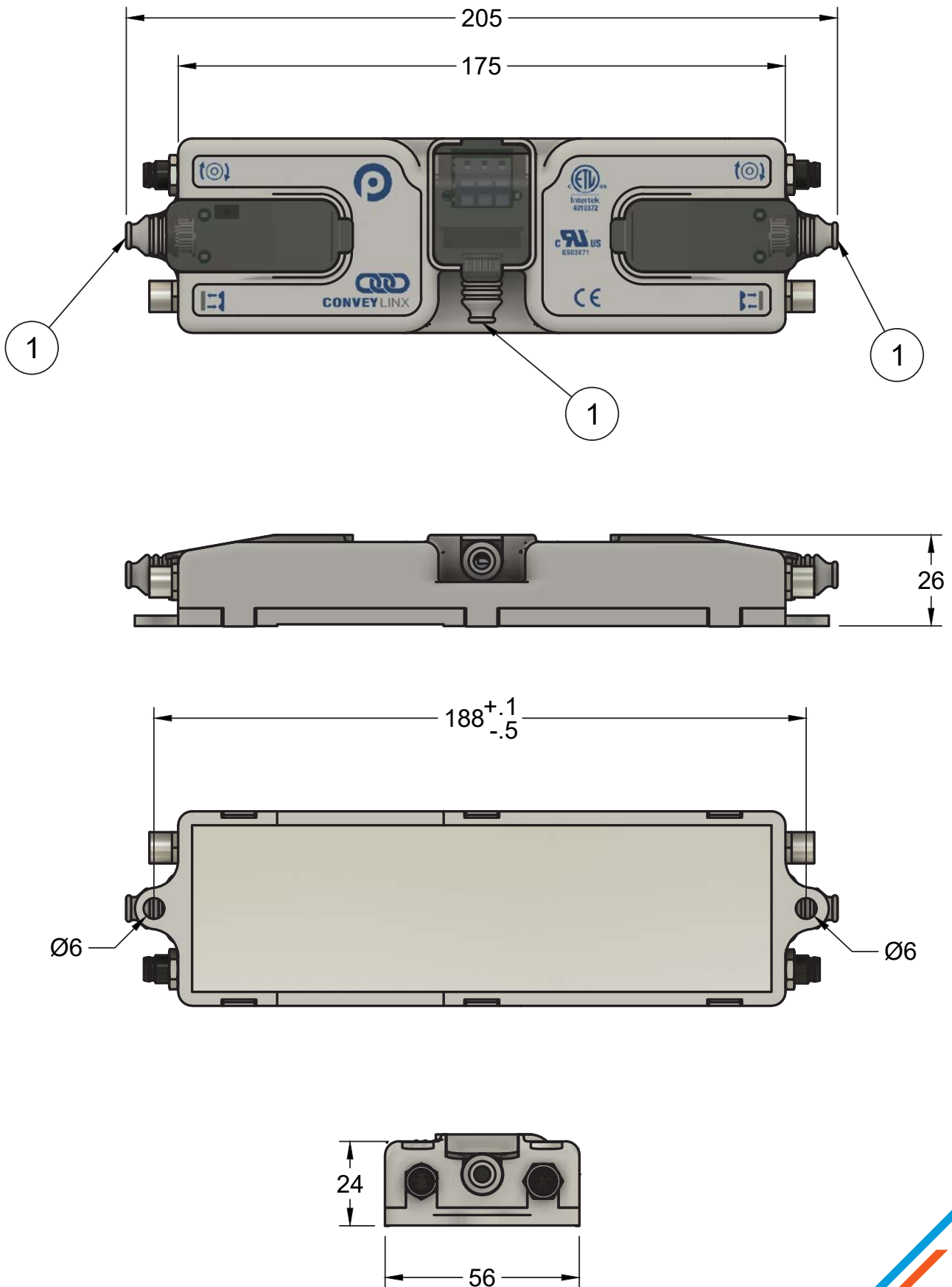
Supported Fieldbus systems



All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-Ai2 48V



1 - Cable Shrouds are shipped unattached and are field installed.

ConveyLinx-Ai2-F

24V



Zwo-Zone Network Control for 24V motor rollers and geared drives in freezer applications

The ConveyLinx-Ai2-F 24V gives you the opportunity to control our motor rollers and geared drives with M8-4Pin connection in freezer applications.

You can use our ConveyLinx-Ai2-F 24V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured system with complex applications.

This innovative solution utilises special electronic components that are suitable for use in deep-freeze environments and therefore guarantee reliable and safe operation at temperatures down to -30°C . The software and firmware of the ConveyLinX-Ai2-F correspond exactly to the standard version for the normal temperature range. When using the deep-freeze version, however, it must be ensured that no condensation of humidity forms on the device in order to ensure proper functioning.

Benefits

- **Small footprint for easy installation inside the side-frame**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **4 Ethernet protocols**
- **Significant reduction of PLC source code**
- **Fully integrated in topology configuration**
- **Operations possible to -30°C**

Features

- **Two-Zone motor control**
- **Profinet and ODVA approved**
- **Connection for 2 motors and 4 sensors**
- **Tracking data handling**
- **Advanced diagnostic functions**
- **Internal ZPA logics**



M8-4Pin standard connector

M8-4Pin standard connector on ConveyLinX



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Rated Current:** ECO: 5,0A | BOOST: 7,0A with two drives
- **Starting Current:** ECO: 6,0A | BOOST: 10,0A with two drives
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -30°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

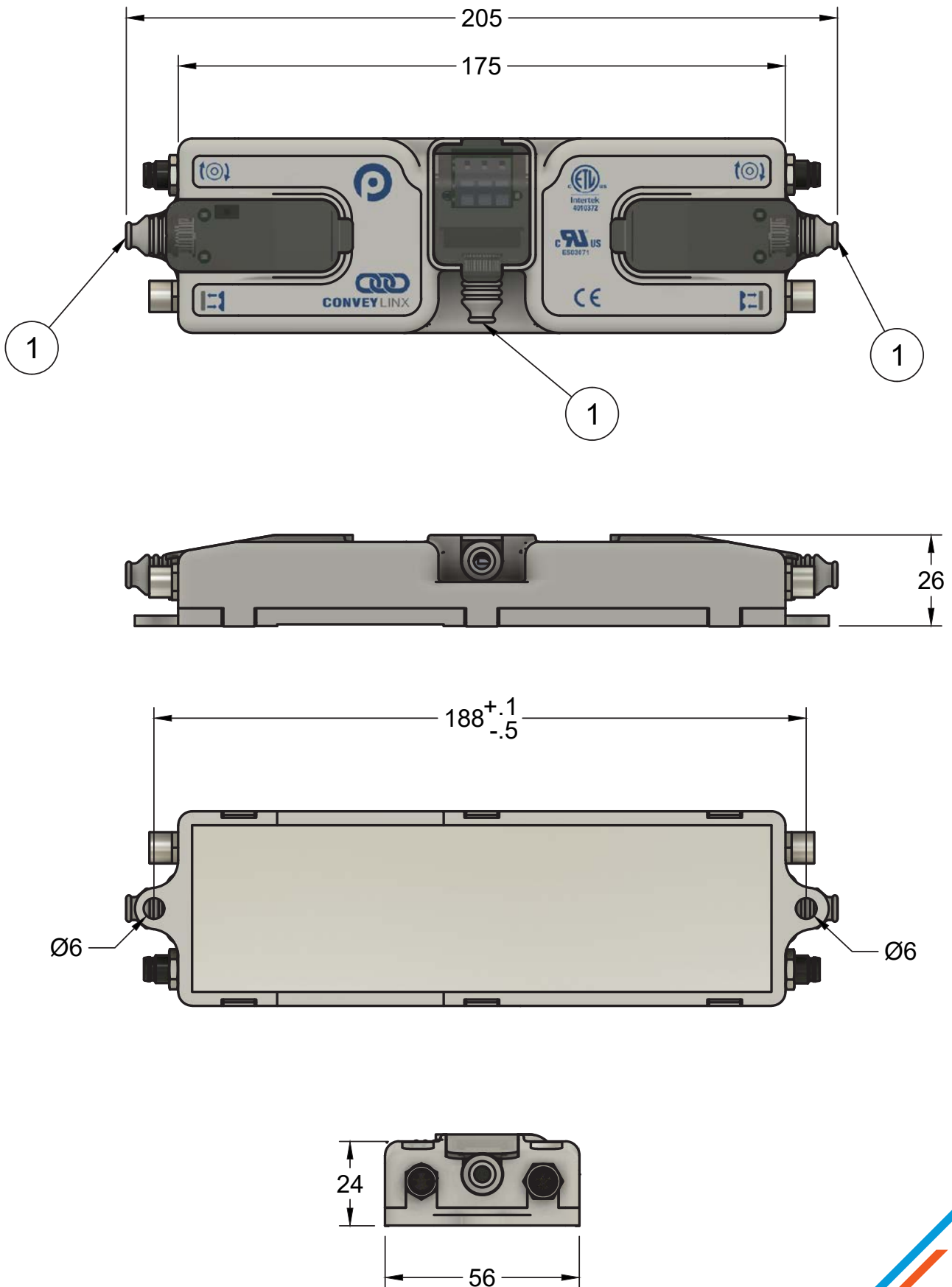
Supported Fieldbus systems



All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-Ai2 DeepFreeze



1 - Cable Shrouds are shipped unattached and are field installed.

ConveyLinx-Ai3 RC/FC 24V



Zwo-Zone Network Control for 24V motor rollers and geared drives with our „Piercing Technology“

The ConveyLinx-Ai3-FC/RC 24V connects the advantages of our ConveyLinx controls family with the simplicity of our patented „Piercing Technology“ which speeds up as well as making installation much more easier.

It gives you the opportunity to control our motor rollers and geared drives with M8-4Pin connection.

ConveyLinx-Ai3 is a solution that significantly simplifies and speeds up both the installation of the control unit and its replacement. The key to this is its cable piercing technology, whereby needles penetrate the insulation of the cable and make secure contact with the current conducting wires. No need for wire stripping or time-consuming press, screw, or soldering fixtures.

ConveyLinx-Ai3 is available in two variants – RC and FC.

The RC variant (Round Cable) enables the use of 6mm² round cables for the motor voltage supply and 2.5mm² cables for the logic voltage supply. The 6mm² cable, offers an extensive cable length range.

The FC variant (Flat Cable) uses an ASI standard ribbon cable and is suitable for carrying the motor voltage supply and separate logic voltage supply. By using a 2.5mm² ASI cable a high degree of standardization in the wiring is possible while at the same time simplifying the overall construction. With ConveyLinx-Ai3 a much easier and quicker method of cabling and connection is assured.

Benefits

- **Fast and easy wiring**
- **Tool-free connection**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **4 Ethernet protocols**
- **Easy interchangeability of the control unit**
- **Fully integrated in topology configuration**

Features

- **Power supply using piercing technology**
- **Profinet and ODVA approved**
- **Increased cable lengths possible especially with 6mm² round cable**
- **Separate power supply for motors and logic**
- **Advanced diagnostic functions**
- **Internal ZPA logics**



M8-4Pin standard connector



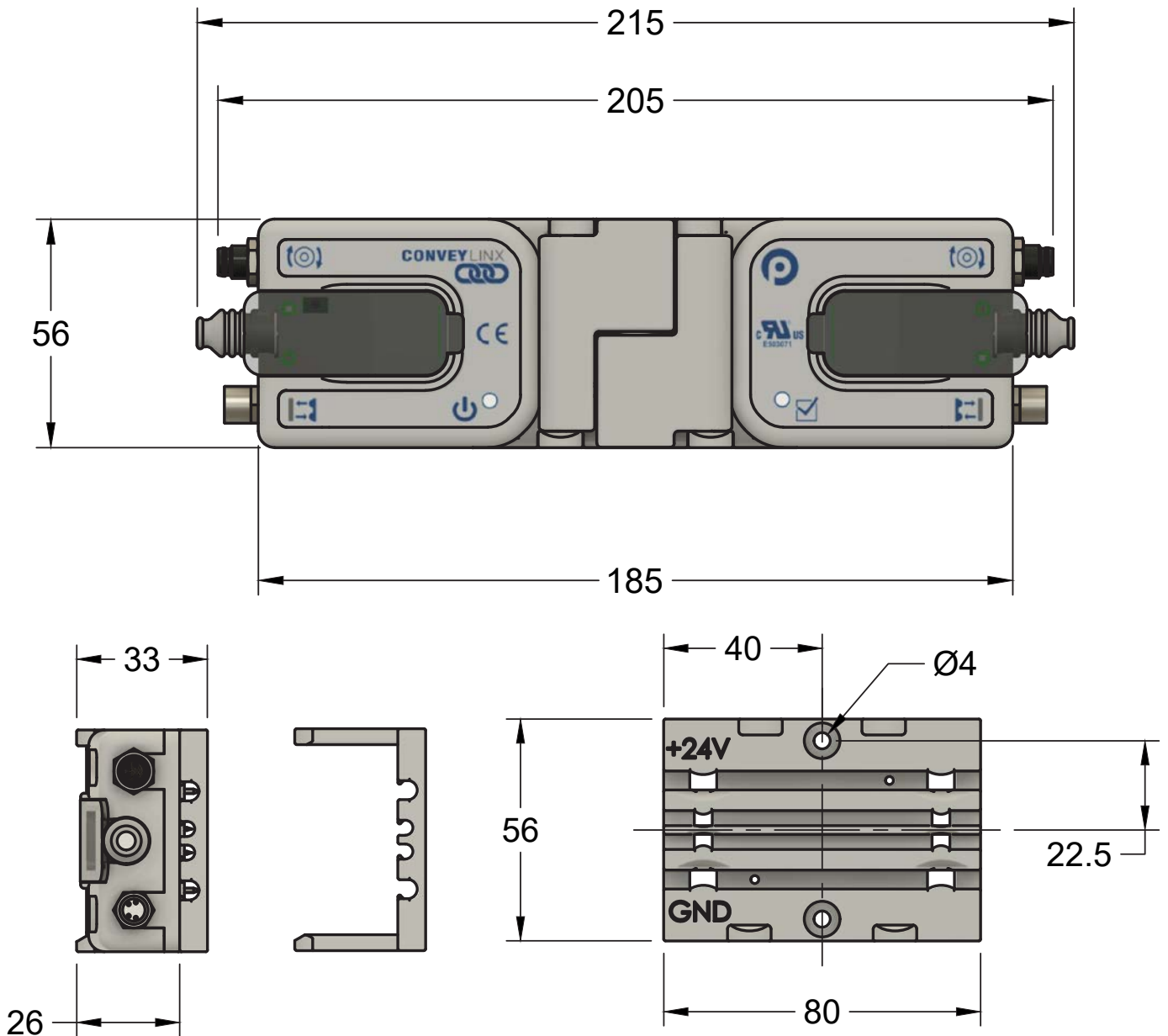
M8-4Pin standard connector on ConveyLinx



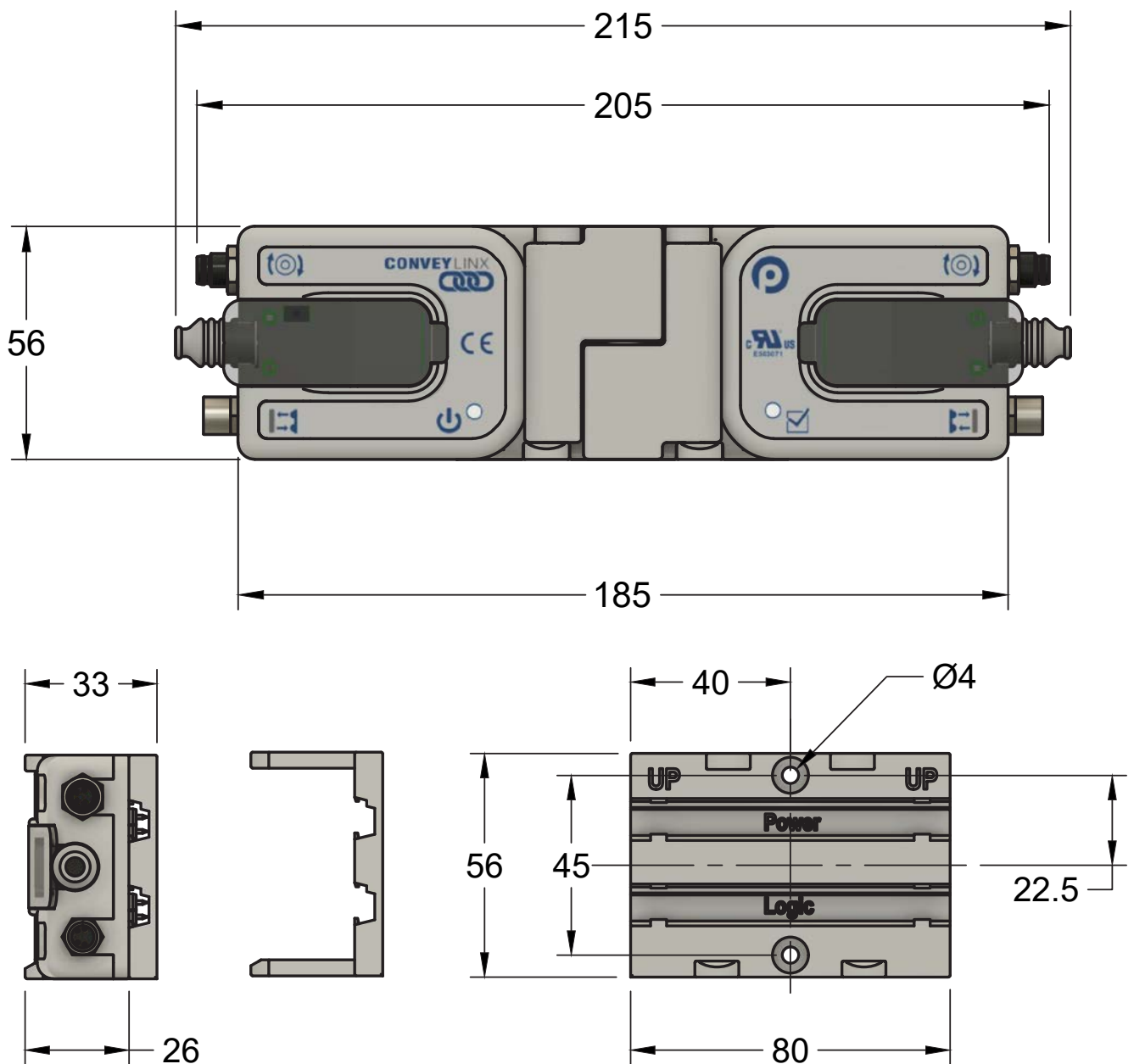
General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Rated Current:** ECO: 5,0A | BOOST: 7,0A with two drives
- **Starting Current:** ECO: 6,0A | BOOST: 10,0A with two drives
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Dimensions of ConveyLinx-Ai3 Round Cable (RC)



Dimensions of ConveyLinx-Ai3 Flat Cable (FC)



Supported Fieldbus systems



All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.

ConveyLinx-Ai3

FC 48V



Zwo-Zone Network Control for 48V motor rollers and geared drives with our Flat Cable „Piercing Technology“

The ConveyLinx-Ai3-FC 48V connects the advantages of our ConveyLinx controls family with the simplicity of our patented „Piercing Technology“ which speeds up as well as making installation much more easier. It gives you the opportunity to control our motor

rollers and geared drives with M8-4Pin connection. You can use our ConveyLinx-Ai3-FC 48V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured system with complex applications.

The patent pending 'Active Power Management' is a system that fundamentally prevents power supply overloading. Configuring the system using EasyRoll+, a ConveyLinx-Ai3-FC group is formed that is connected to one power supply. The maximum amperage of this power supply is defined for the group. Active Power Management then monitors the power consumption of the group and regulates the individual drives, optimizing or reducing their power consumption as required. This not only ensures reliable, efficient conveying under all operating conditions but also prevents power supply failure in rare cases of full or peak load.

With Active Power Management it is now possible at the design stage to eliminate uncertainty when calculating power requirements. There is no need

to build-in oversize power reserves when defining the number of power supplies in a system. The system can be defined with its 'average' power requirement instead of its 'peak' power. In this way the number of power supply units can be kept to a minimum and the Active Power Management will prevent system failure under peak load.

With Active Power Management, the reliability and availability of the system will be significantly increased under all operating conditions without the need of oversizing the power supply units.

Benefits

- **Fast and easy wiring**
- **Tool-free connection**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **4 Ethernet protocols**
- **Less power supplies needed**
- **Fully integrated in topology configuration**

Features

- **Active Power management**
- **Profinet and ODVA approved**
- **Separate power supply for motors and logic**
- **Advanced diagnostic functions**
- **Internal ZPA logics**
- **Increase of system availability**



General Technical Data

- **Voltage:** 48V DC
- **Protection Class:** IP54
- **Rated Current:** 1,6A* per motor
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A* per motor
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

*Current limiting option selectable.

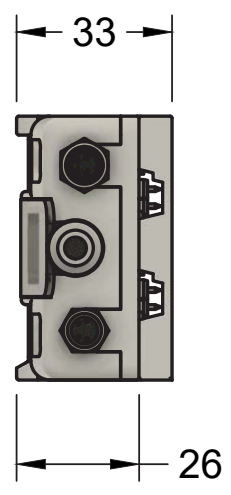
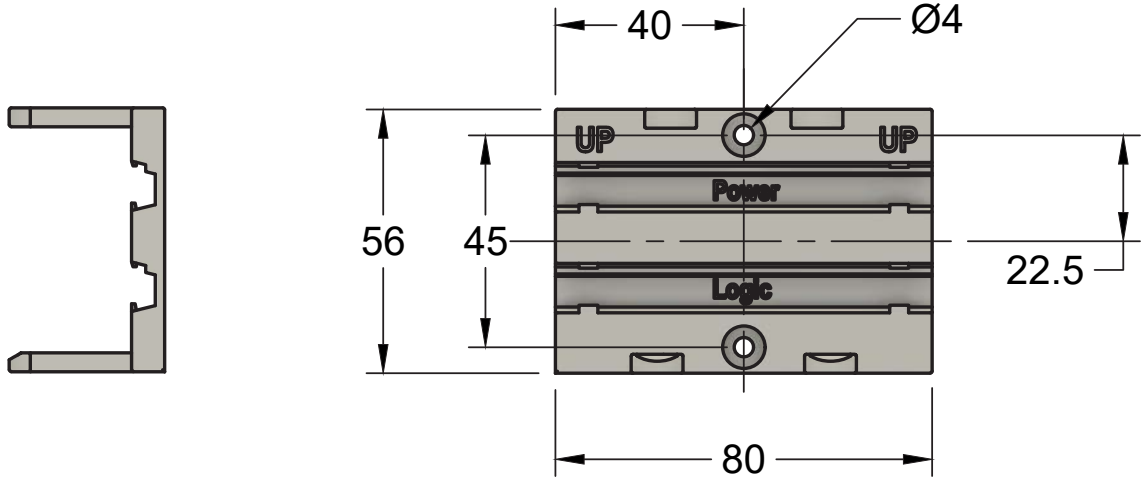
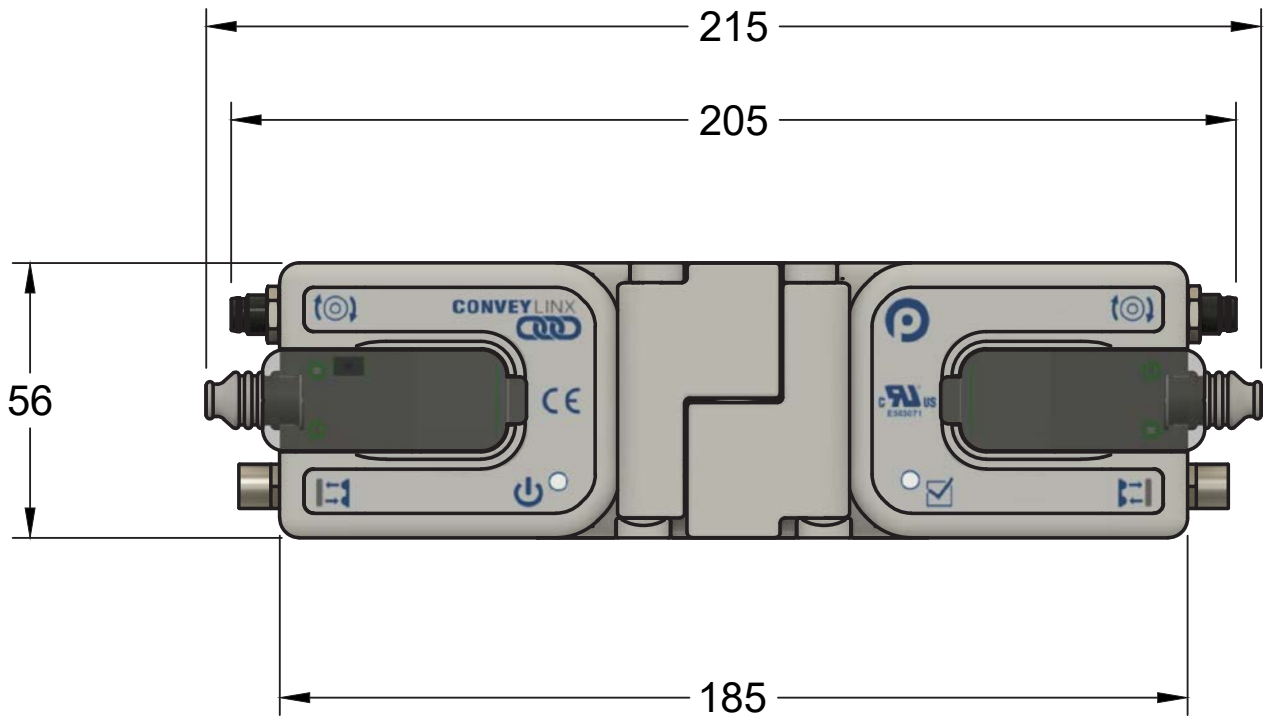
Supported Fieldbus systems



All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-Ai3 Flat Cable (FC)



ConveyLinx-Ai3

FCM 24V



Zwo-Zone Network Control for 24V or motor rollers and geared drives with M12 bus connector.

The ConveyLinx-Ai3-FCM 24V connects the advantages of our ConveyLinx controls family with the simplicity of our patented „Piercing Technology“ as well as using the M12 bus connectors for reliable connection even in extreme environments. It gives you the oppor-

tunity to control our motor rollers and geared drives with M8-4Pin connection. You can use our ConveyLinx-Ai3-FCM 24V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured systems.

The ConveyLinx-Ai3-FCM is an innovative solution designed specifically for the toughest industrial environments. Built to meet and exceed the strictest industrial standards, this product thrives in harsh conditions, ensuring your operations remain efficient and reliable. It was never easier to install a control than with our ConveyLinx-Ai3-FCM 24V version. With its „Piercing Technology“ you achieve tool free installation and wiring. On the back of the control are piercing needles which make contact with the cable laying behind it. With our ConveyLinx-Ai3-FCM 24V, a zero-pressure accumulation (ZPA) conveyor can be controlled fully autonomously without the use of a PLC. Alternatively, if a higher-level control is preferred, a PLC can be integrated using ProfiNet,

Ethernet IP, Modbus TCP and CCLink. The PLC does not need to control every zone, it needs to control only a limited number of decision points. If the application should be fully controlled by a PLC, the configuration and control of all ConveyLinx-Ai3' 24V can be made while using the Topology from TIA Portal or STEP 7.

Benefits

- **Fast and easy wiring**
- **Tool-free connection**
- **High flexibility to fit in all applications**
- **Robust installation technology**
- **4 Ethernet protocols**
- **Easy interchangeability of the control unit**
- **Fully integrated in topology configuration**

Features

- **Power supply using piercing technology**
- **Profinet and ODVA approved**
- **M12 connection for bus**
- **Separate power supply for motors and logic**
- **Advanced diagnostic functions**
- **4 IP-based bus systems**



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Rated Current:** 2,6A
- **Starting Current:** 3,0A | 5,0A | 8,0A (per Motor)
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Supported Fieldbus systems



EtherNet/IP™
ODVA

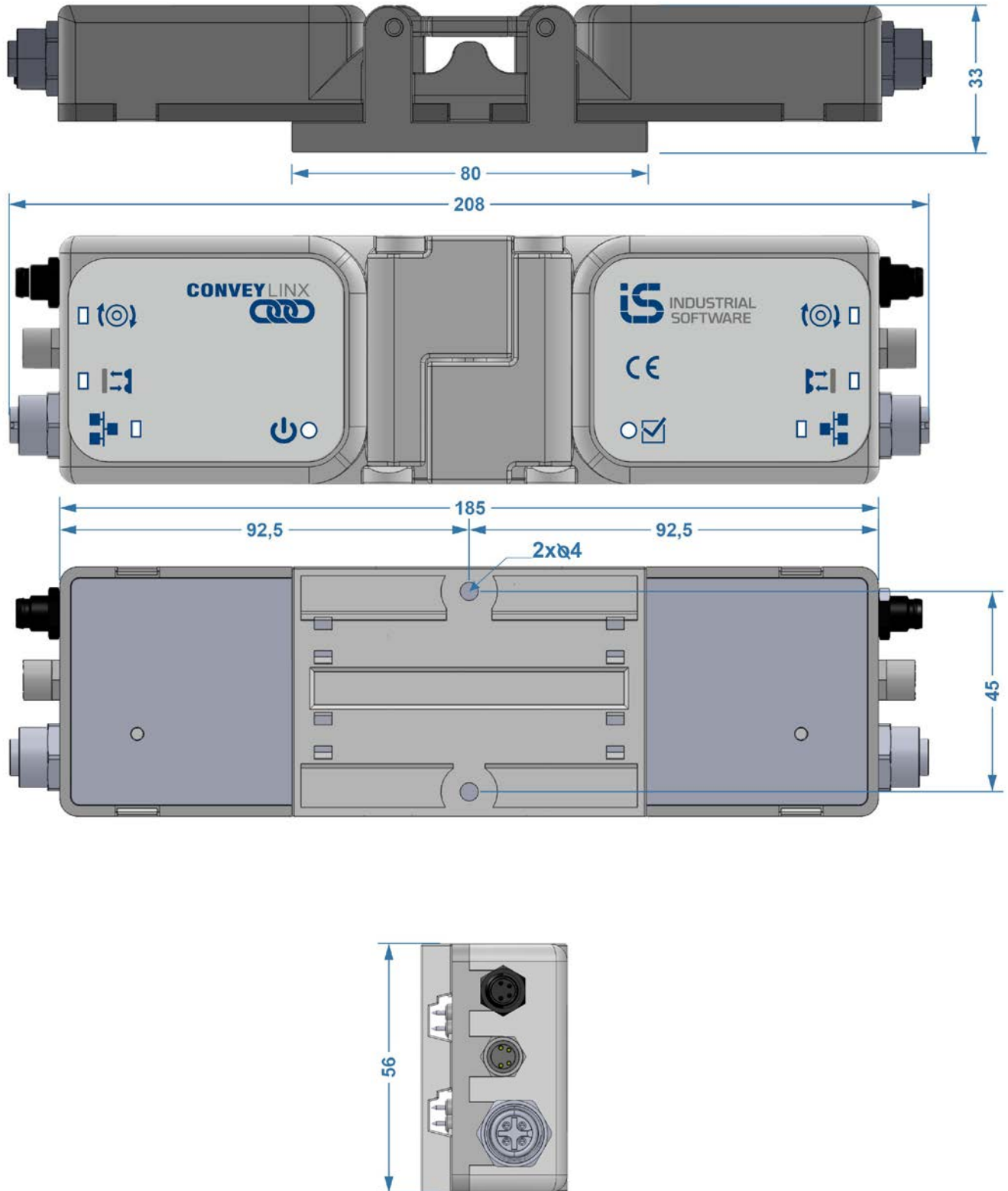


CC-Link IE Field
Basic

All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-Ai3-FCM 24V



ConveyLinx-Ai3

FCM 48V



Zwo-Zone Network Control for 48V or motor rollers and geared drives with M12 bus connector.

The ConveyLinx-Ai3-FCM 48V connects the advantages of our ConveyLinx controls family with the simplicity of our patented „Piercing Technology“ as well as using the M12 bus connectors for reliable connection even in extreme environments. It gives you the oppor-

tunity to control our motor rollers and geared drives with M8-4Pin connection. You can use our ConveyLinx-Ai3-FCM 48V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured systems.

The ConveyLinx-Ai3-FCM is an innovative solution designed specifically for the toughest industrial environments. Built to meet and exceed the strictest industrial standards, this product thrives in harsh conditions, ensuring your operations remain efficient and reliable. It was never easier to install a control than with our ConveyLinx-Ai3-FCM 48V version. With its „Piercing Technology“ you achieve tool free installation and wiring. On the back of the control are piercing needles which make contact with the cable laying behind it. With our ConveyLinx-Ai3-FCM 48V, a zero-pressure accumulation (ZPA) conveyor can be controlled fully autonomously without the use of a PLC. Alternatively, if a higher-level control is preferred, a PLC can be integrated using ProfiNet,

Ethernet IP, Modbus TCP and CCLink. The PLC does not need to control every zone, it needs to control only a limited number of decision points. If the application should be fully controlled by a PLC, the configuration and control of all ConveyLinx-Ai3' 48V can be made while using the Topology from TIA Portal or STEP 7.

Benefits

- **Fast and easy wiring**
- **Tool-free connection**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **4 Ethernet protocols**
- **Less power supplies needed**
- **Fully integrated in topology configuration**

Features

- **Active Power management**
- **Profinet and ODVA approved**
- **Separate power supply for motors and logic**
- **Advanced diagnostic functions**
- **Internal ZPA logics**
- **Increase of system availability**
- **M12 bus connector**



General Technical Data

- **Voltage:** 48V DC
- **Protection Class:** IP54
- **Rated Current:** 1,6A* per motor
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A* per motor
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

*Current limiting option selectable.

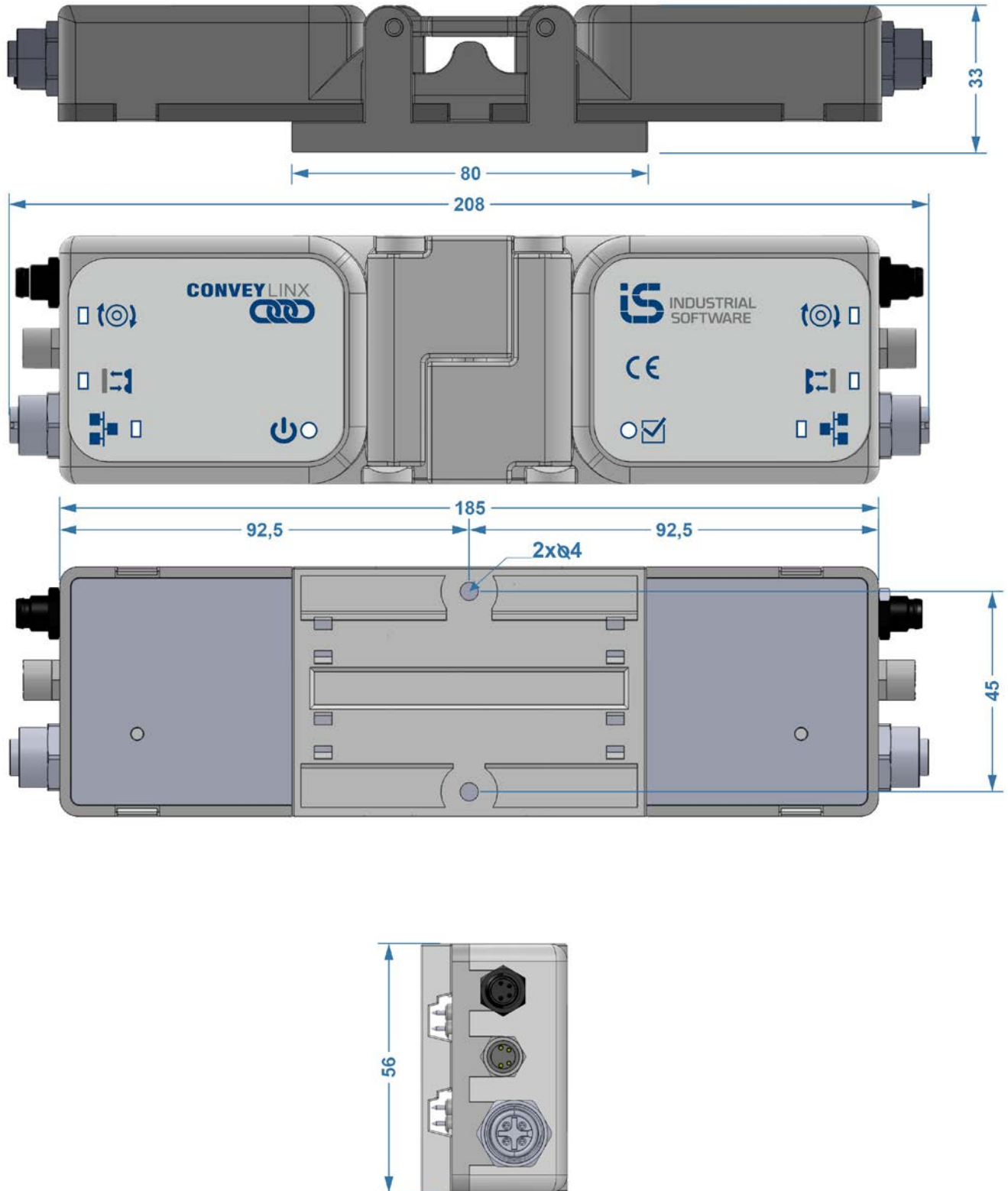
Supported Fieldbus systems



All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-Ai3-FCM 48V



Two-Zone Network Control for 24V motor rollers and geared drives specially designed for EtherCAT.

For configuration no proprietary software is required. All parameters can be configured via Service Data Objects (SDO) following fully EtherCAT standards. Preventive maintenance data can be retrieved from MotionLinx-Ai with read Service Data Object transfer.

Due to its small footprint, MotionLinx Ai can be integrated in virtually all field environments very easily. Sharing the

outer dimensions with ConveyLinx-Ai2, MotionLinx-Ai is perfect for design standardisation and low height installation with a protection rate of IP54.

MotionLinx Ai opens the world of high-speed bus control to all Pulseroller products – sharing their great benefits like Ai technology, durability, and excellent design.

Benefits

- **Small footprint for easy installation inside the side-frame**
- **High flexibility to fit in all applications**
- **Fast module replacement**
- **High communication speed**
- **Real time applications**

Features

- **Two-Zone motor control**
- **Connection for 2 motors and 4 sensors**
- **Advanced diagnostic functions**



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Rated Current:** ECO: 2,5A x 2 | BOOST: 3,5A x 2 | BOOST-8: 3,5A x 2
- **Starting Current:** ECO: 3,0A x 2 | BOOST: 5,0A x 2 | BOOST-8: 8,0A x 2
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

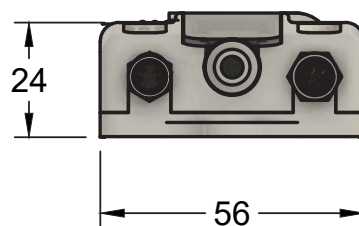
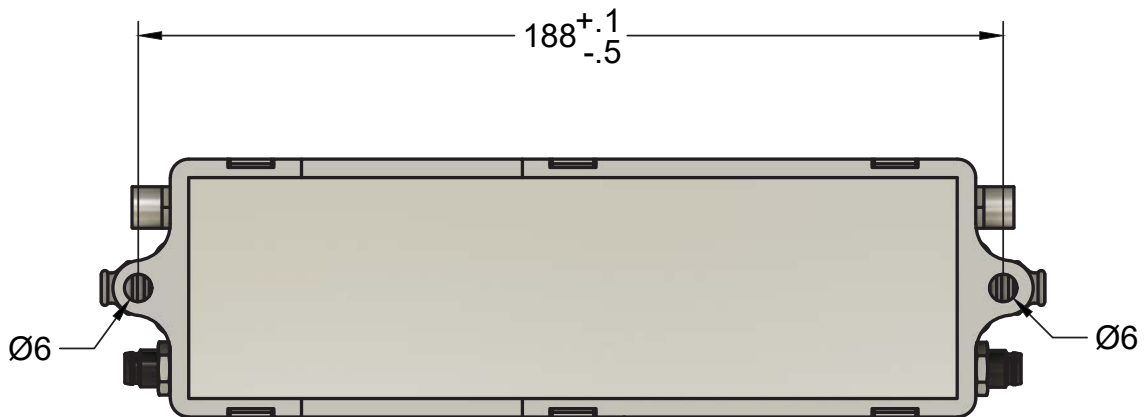
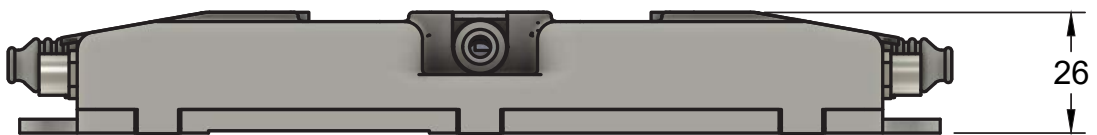
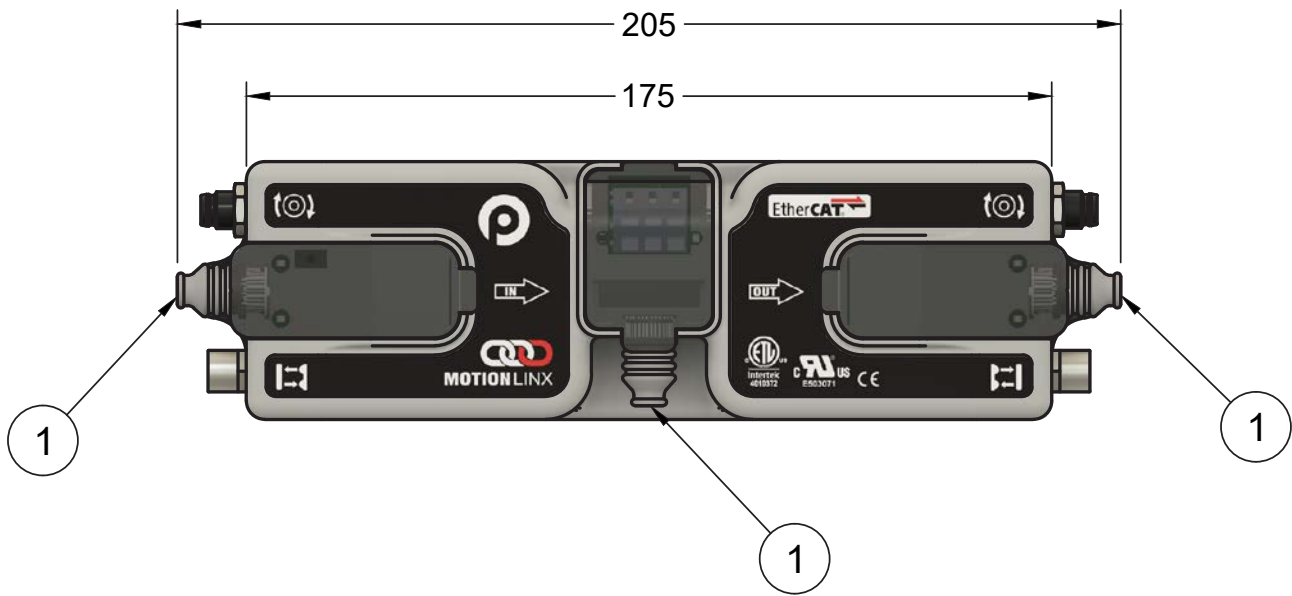
Supported Fieldbus systems

EtherCAT 

Our MotionLinx products are specially designed to support EtherCAT connection.



Dimensions of MotionLinX-Ai



1 - Cable Shrouds are shipped unattached and are field installed.

Convey Proxy



**Gateway for systems with
ConveyLinx to reduce the
number of IP addresses.**

In systems where numerous ConveyLinx devices are networked, each requiring its own IP address, the demand for connections in the PLC can be significant. ConveyProxy serves as a solution by acting as a central connection point, aggregating data from multiple ConveyLinx devices and allowing them to be controlled and monitored through a single IP address and connection.

In such systems, numerous ConveyLinx are networked and each requires its own IP address, which leads to a high demand for connections in the PLC.

The ConveyProxy acts as a central connection point for multiple ConveyLinx, aggregating the data connection and allowing multiple devices to be

controlled and monitored via a single IP address and connection. This simplifies network management, saves resources and enables the seamless integration of different systems into a smaller PLC.

With ConveyProxy, companies can coordinate their logistics and materials handling processes more efficiently

Benefits

- Control of large systems with small PLC
- Can be fully integrated into Siemens PLC
- Independent PLC function

Features

- Structurally identical to ConveyLinx-Ai2
- Various operating modes
- Simplified topology

while minimising IP address usage. This results in cost savings and improved scalability of automation systems, contributing to a more efficient and economical solution overall.



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Connection:** LAN
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Supported Fieldbus systems

Our Gateway ConveyProxy does support following common used communication protocols...

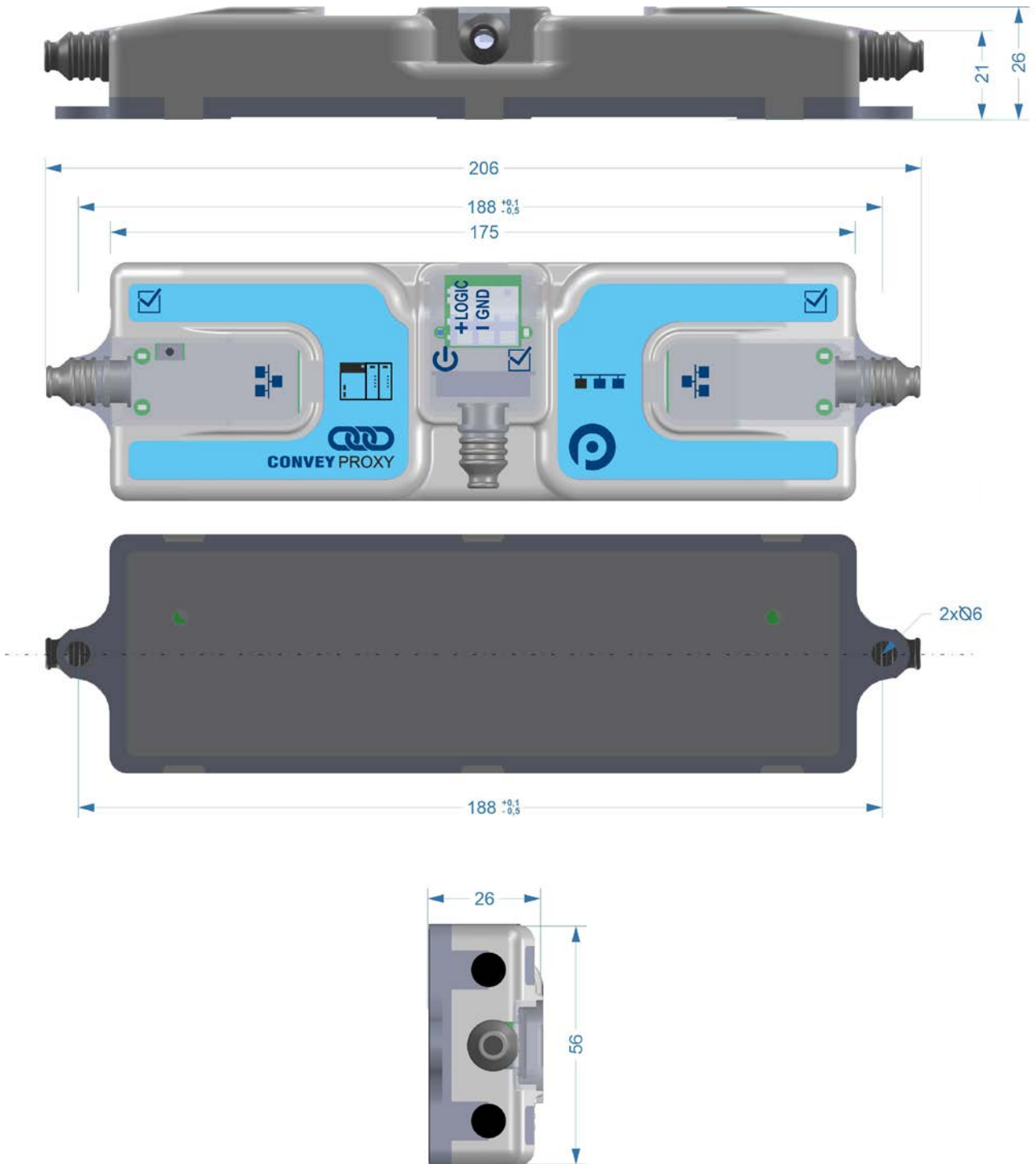
...for PLC connection:



...for non-PLC connection:



Dimensions of ConveyProxy



ConveyLinx-JST-B

24V



The ConveyLinx-JST-B 24V gives you the opportunity to control our motor rollers and geared drives with 9-Pin JST connection. You can use our ConveyLinx-JST-B 24V for simple zero pressure accumulation (ZPA) applications as well as part of a PLC-configured system with complex applications. It gives you the power of free decision-making.

Two Zone Network Control for 24V Motor Roller and Geared Drives with JST connector.

The ConveyLinx-JST-B is the dedicated control for the Senergy-JST-B motorised roller, featuring an integrated holding brake, as well as our PGD-JST and PGD-JST-B geared drives. The brake is fully deactivated automatically, eliminating the need for intervention by the higher-level controller. When de-energized, the brake reliably closes due to its spring-loaded mechanism and is only released by an electromagnet, ensuring secure and precise operation.

The motorised roller connects via a 9-Pin JST connector, which also manages the control of the mechanical holding brake. This system offers full compatibility with other controllers in the ConveyLinx family, enabling seamless integration of a mechanically braked motorised roller in any conveyor zone. All logic functions available in the ConveyLinx system remain fully accessible, ensuring flexibility and consistency across the entire setup.

Benefits

- Automatic brake control
- Full compatibility with other control systems
- Robust housing
- 4 Ethernet protocols
- Significant reduction of PLC source code
- Fully integrated in topology configuration

Features

- Two-Zone motor control
- Profinet and ODVA approved
- Connection for 2 motors and 4 sensors
- Tracking data handling
- Advanced diagnostic functions
- Internal ZPA logics



9-Pin JST connector



9-Pin JST connector on ConveyLinx-JST-B



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Rated Current:** ECO: 2,5A x2 | BOOST: 3,5 x2 | BOOST-8: 3,5 x2
- **Starting Current:** ECO: 3,0A x2 | BOOST: 5,0 x2 | BOOST-8: 8,0 x2 (only HTF)
- **Connection:** 9Pin JST Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Supported Fieldbus systems



Ethernet/IP™
ODVA

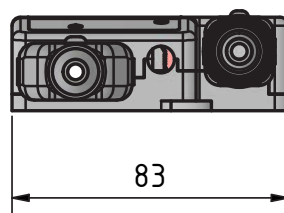
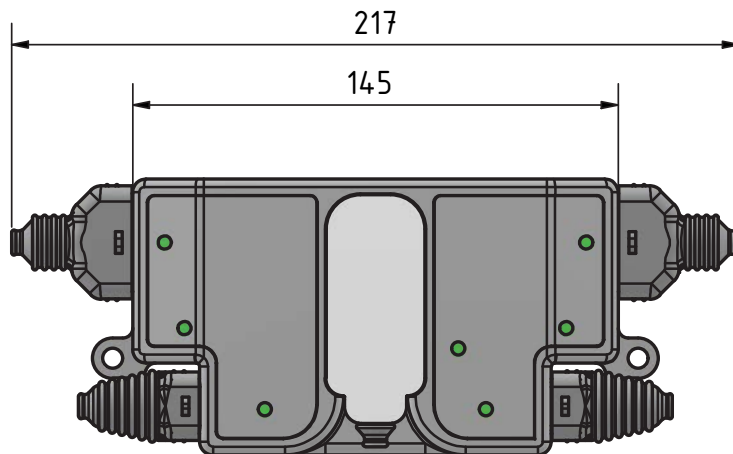
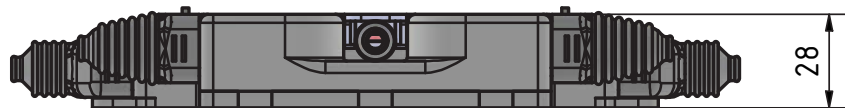
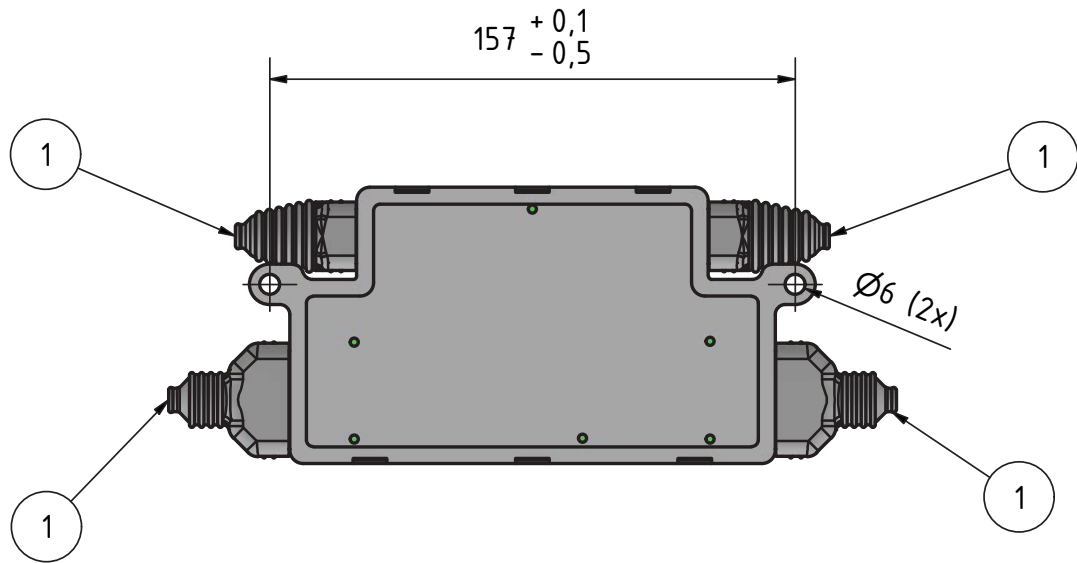


CC-Link IE Field Basic

All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-JST-B



EQUBE-Ai

24V



Simple control for a 24V motor roller or geared drive.

The EQUBE-Ai 24V is our simplest control to power and control our Senergy-Ai 24V or PGD-Ai 24V using M8-4Pin connection. Based on its compact design, EQUBE-Ai 24V is the perfect control for areas with a very limited space, as it is fitting easily into every conveyor side frame.

Using DIP-switches, many parameters like acceleration, deceleration, direction of rotation and speed can be quickly selected or changed. The speed can also be set by digital inputs from an external control. With a motor error output, the motor condition can be

monitored continuously in real time. All external signal wires are connected via simple in-line clamps. Due to its small size, EQUBE-Ai can be installed in areas of limited space and in virtually all conveyor side frames.

Benefits

- **Very small footprint**
- **Speed selection via two I/Os**
- **Failure output**
- **Acceleration and deceleration settings**

Features

- **Motor control for Senergy-Ai and PGD-Ai**
- **DIP-switches for configuration**
- **Status LEDs**

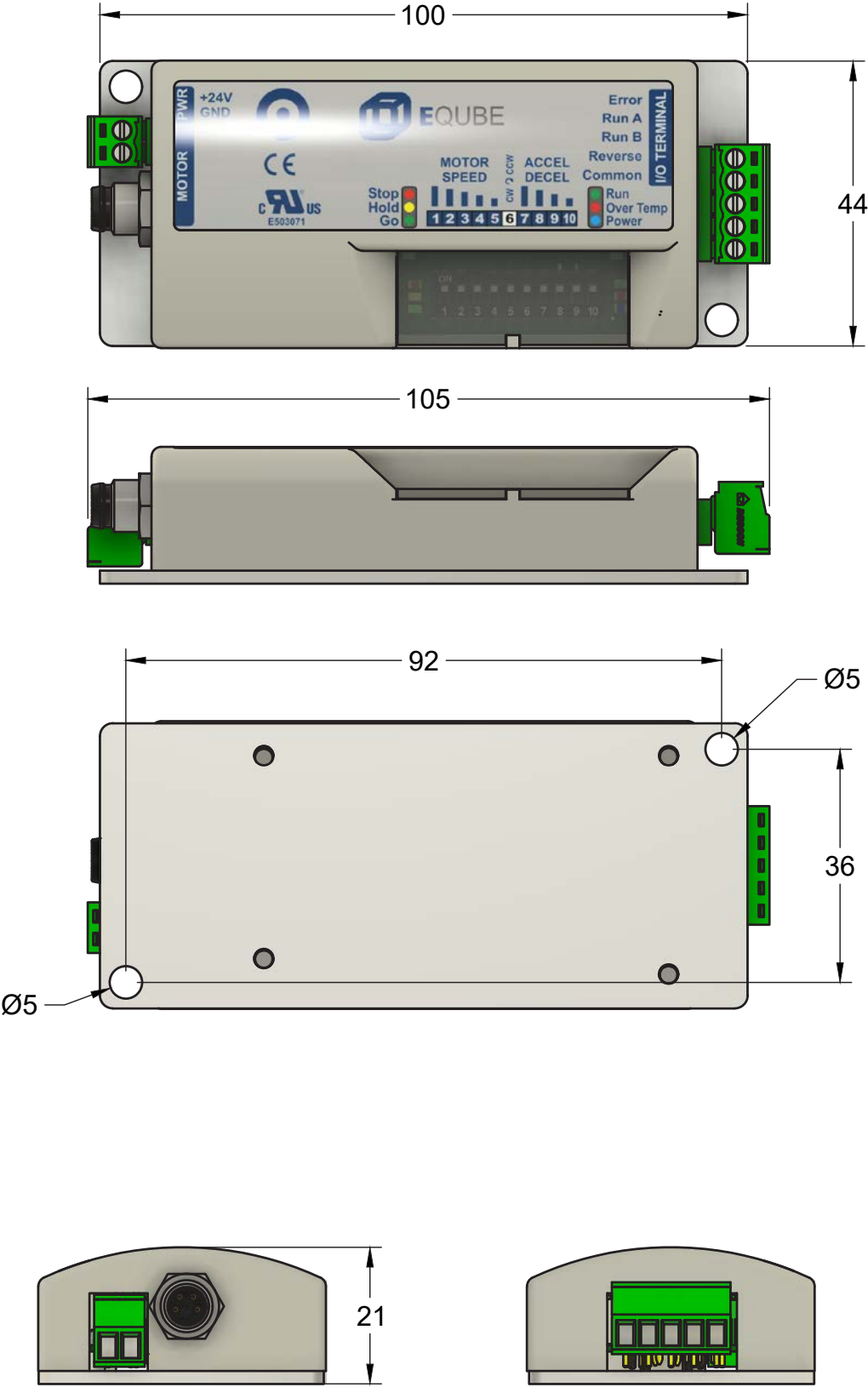


General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP20
- **Rated Current:** ECO: 2,5A
- **Starting Current:** ECO: 3,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH



Dimensions of EQUBE-Ai



EZ-QUBE

24V



Simple control for a 24V motor roller or geared drive with JST 9-Pin connector.

The EZ-QUBE 24V is our simplest control to power and control our Senergy-JST or PGD-JST with or without brake using 9Pin JST connection. Based on its compact design, EZ-QUBE is the perfect control for areas with a very limited space, as it is fitting easily into every conveyor side frame.

Using DIP-switches, many parameters like acceleration, deceleration, direction of rotation and speed can be quickly selected or changed. The speed can also be set by digital inputs from an external control. With a motor error output, the motor condition can be

monitored continuously in real time. All external signal wires are connected via simple in-line clamps. Due to its small size, EZ-QUBE can be installed in areas of limited space and in virtually all conveyor side frames.

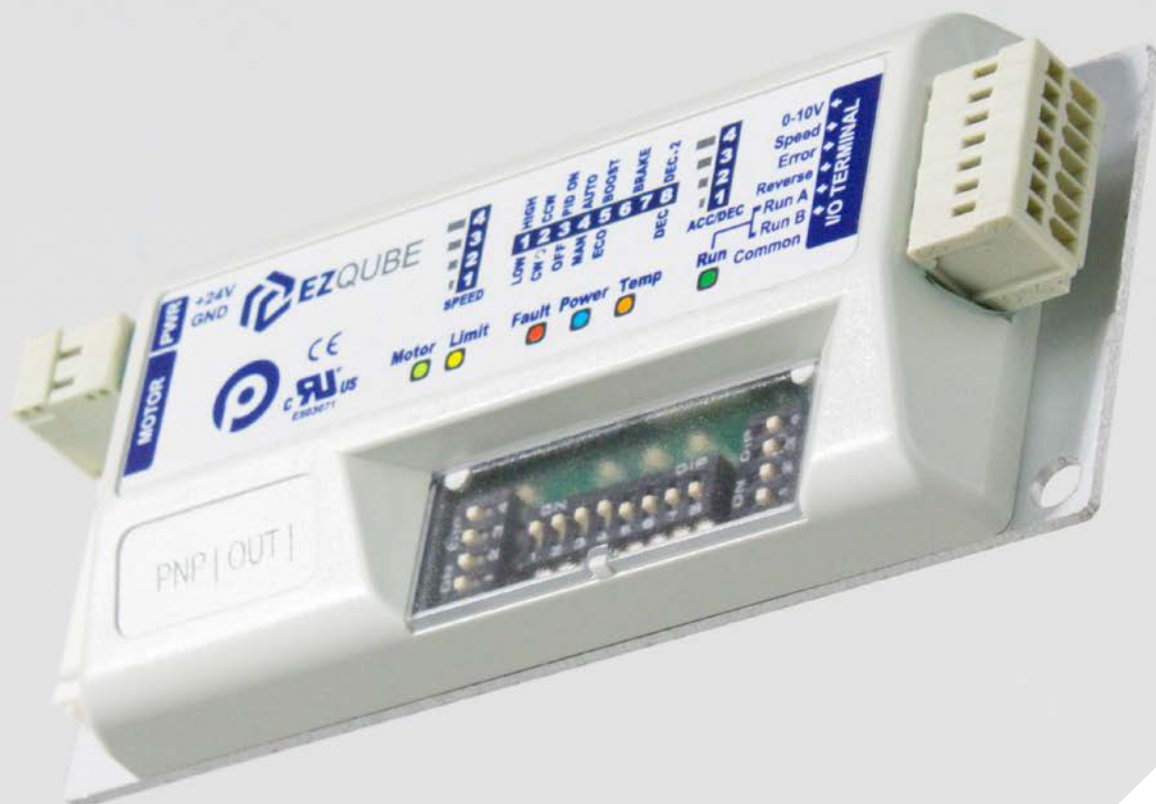


Benefits

- **Very small footprint**
- **Speed selection via two I/Os**
- **Failure output**
- **Acceleration and deceleration settings**

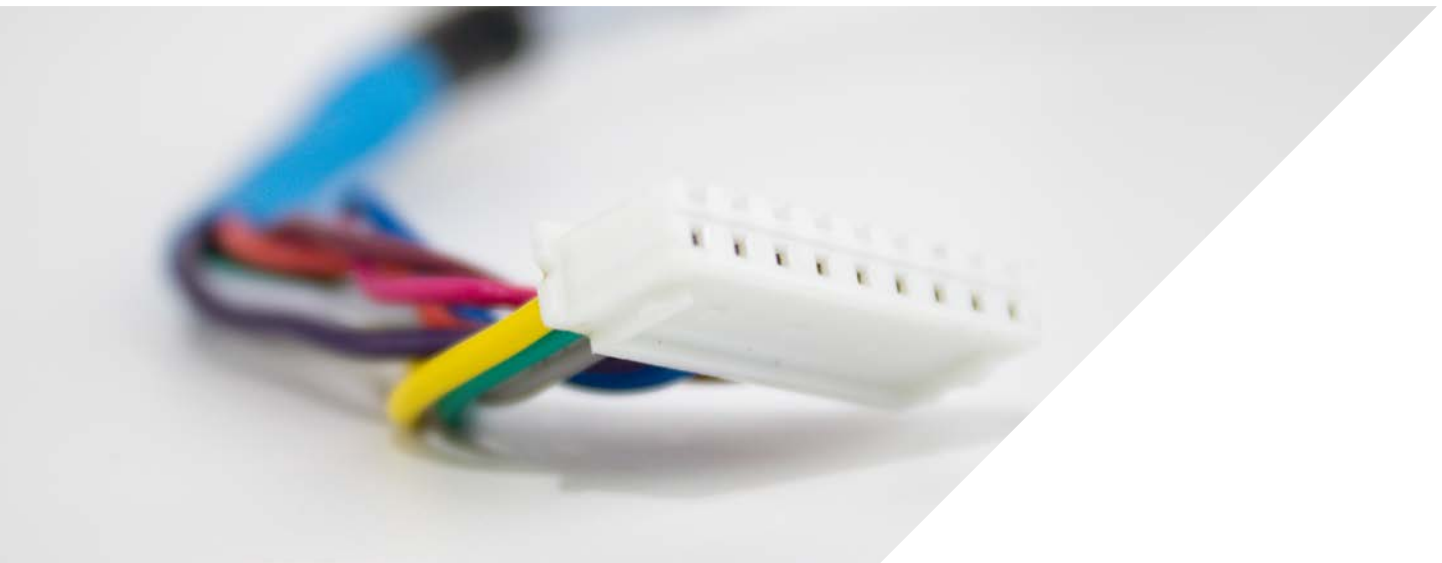
Features

- **Motor control for Senenergy-JST and PGD-JST**
- **DIP-switches for configuration**
- **Status LEDs**

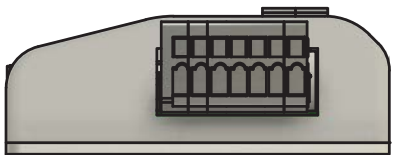
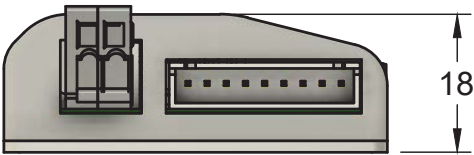
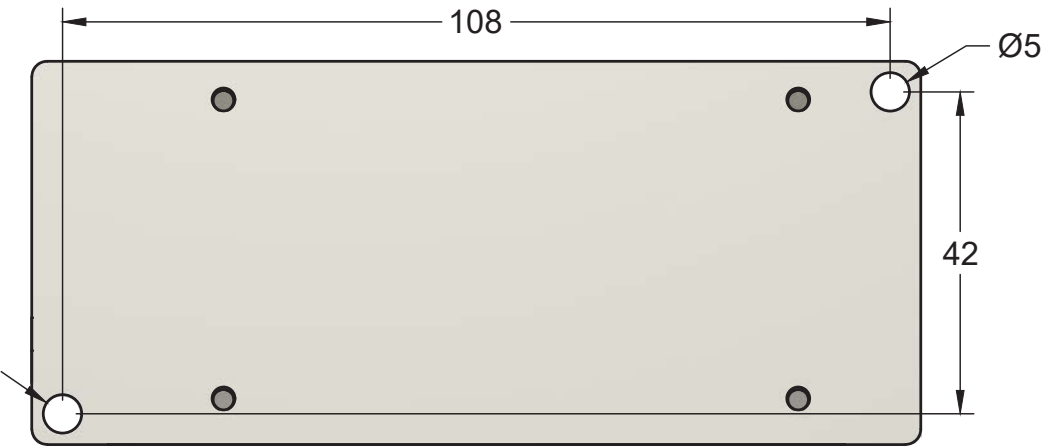
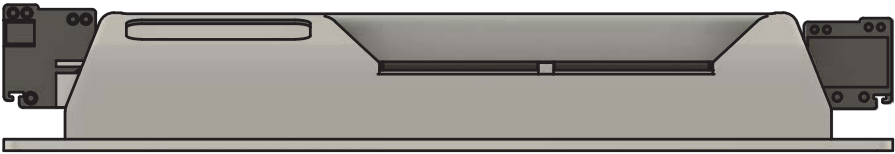
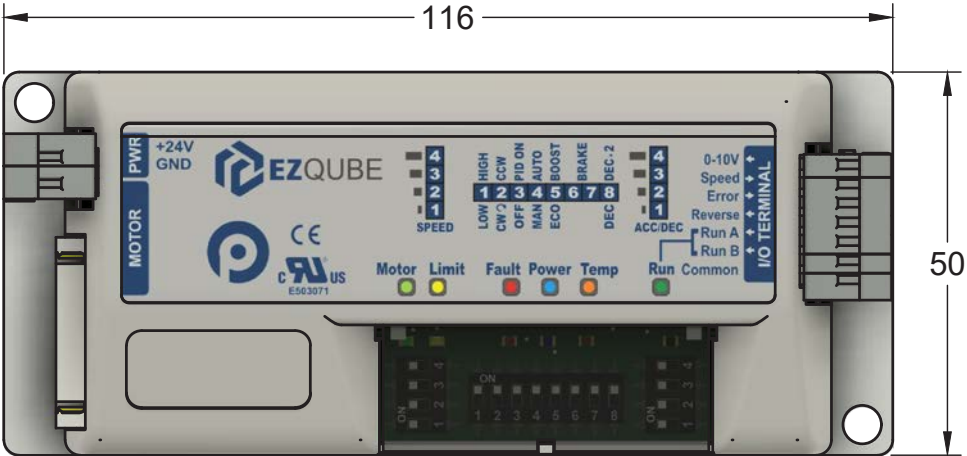


General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP20
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A
- **Connection:** 9Pin JST Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH



Dimensions of EZ-QUBE



EZ-QUBE-W-Ai

24V



Simple control for a 24V motor roller or geared drive with Bluetooth configuration.

The EZ-QUBE-W-Ai 24V is our bluetooth control to power and control our Senergy-Ai or PGD-Ai using M8-4Pin connection. Based on its compact design, EZ-QUBE-W-Ai is the perfect control for areas with a very limited space, as it is fitting easily into every conveyor side frame.

Individual controls or groups of controls can now be configured using an app on a smartphone, tablet, or laptop and without the use of DIP switches.

The EZ-Qube-W-Ai is equipped with:

- Infinitely variable speed adjustment
- Separate setting of braking and acceleration ramps
- Holding brake

- Eco, Boost and Boost 8 drive modes
- Online and offline configuration mode
- App-based
- Program-based for a large number of controls at the same time
- Integrated error memory with evaluation function: In the case of analysis, all data can be read directly from the EZQube Ai-W using the mobile device.



Benefits

- **Very small footprint**
- **Speed selection via two I/Os**
- **Failure output**
- **Bluetooth-based configuration**

Features

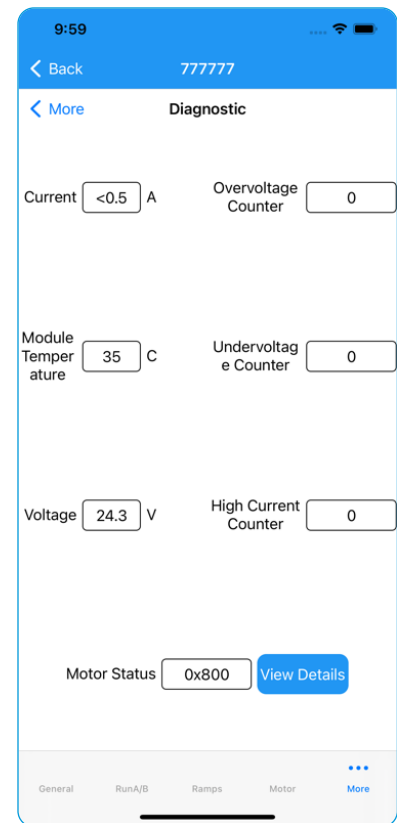
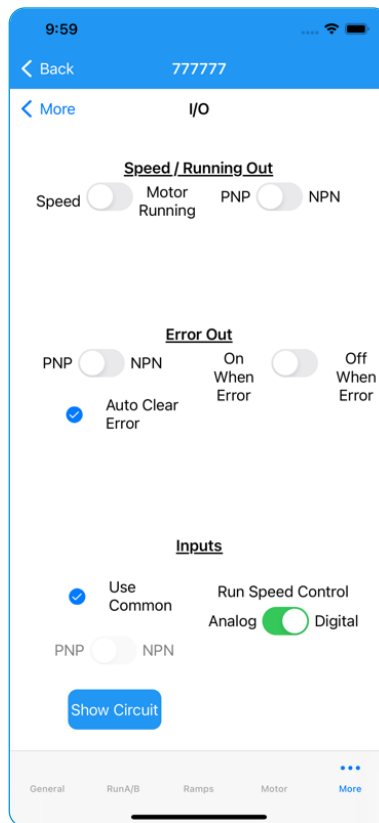
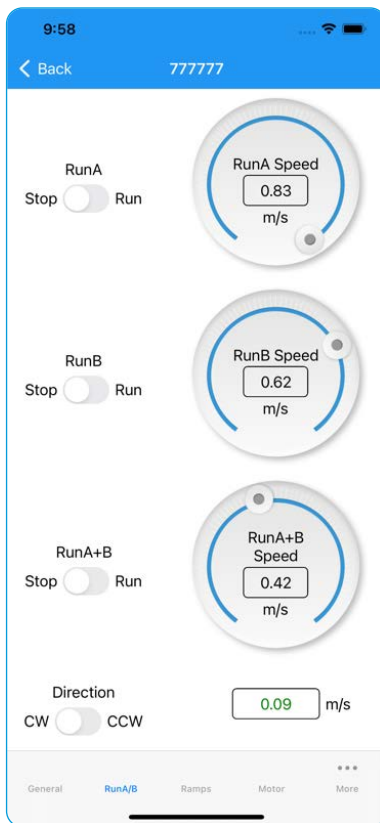
- **Motor control for Senergy-Ai and PGD-Ai**
- **Error memory**
- **Status LEDs**
- **Highly convenient configuration**



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP20
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Screenshots of control app



Free download
in the App Store

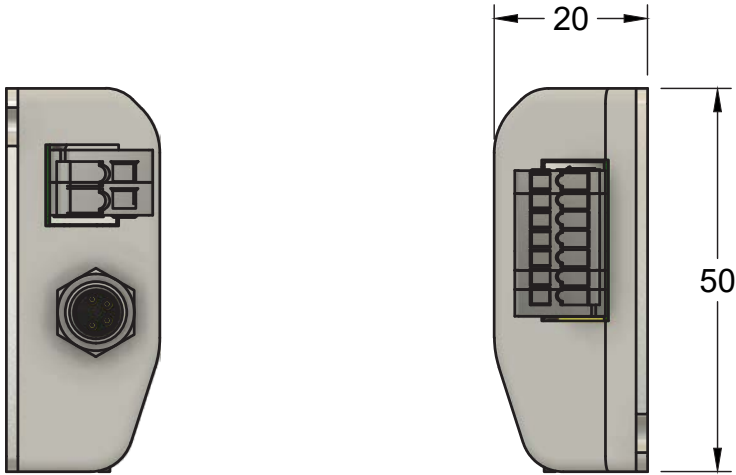
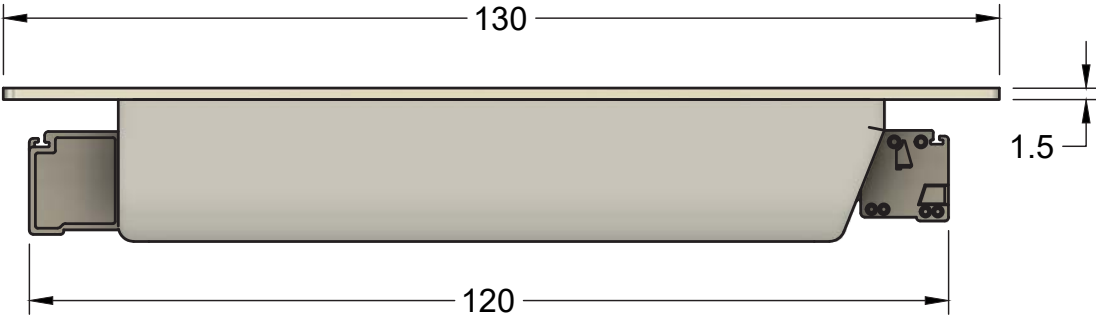
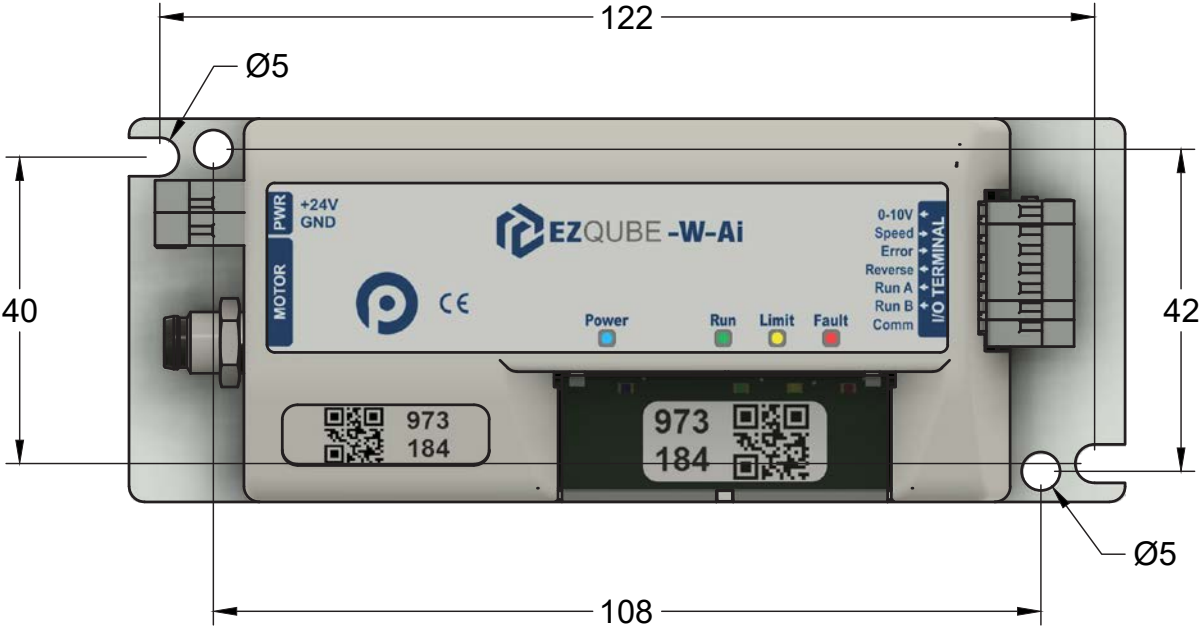
iOS App Store



Google Play Store



Dimensions of EZ-QUBE-W-Ai



ConveyLinx

I/O



Input and Output module for 24V motor rollers and geared drives based on the ConveyLinx-Ai2.

For many conveyor applications, the demand for multiple I/O points often exceeds the number of controls for motorized rollers.

In such cases, additional I/O blocks are required, which typically need to be sourced from third-party suppliers. With Pulseroller, there is no need to look elsewhere for I/O solutions.

This being the case, additional I/O blocks will be necessary and would normally have to be purchased from a second party. However, there is no need to source I/O's from another supplier as you can obtain them from Pulseroller where you can be assured that they will be compatible with other Pulseroller products.

ConveyLinX I/O offers the unique feature of having a system internal I/O block at your fingertips. The Pulseroller I/O is already integrated in the GSDML file. So, integration in your project will be fast. ConveyLinX I/O is an additional strong member of the Pulseroller product portfolio.

Benefits

- **Small footprint for easy installation inside the side-frame**
- **High flexibility to fit in all applications**
- **Fully compatible with all ConveyLinX**
- **High communication speed**
- **Real time applications**
- **Error-free commissioning**
- **All components from a single source**

Features

- **8 configurable I/O points**
- **Standard I/O pin assignment**
- **PNP/NPN logic conversion**
- **Separate power supply for the outputs**
- **Outputs drive up to 300mA permanently**
- **Configuration via PLC and GSDML file**



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Maximum current per output:** 300mA
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

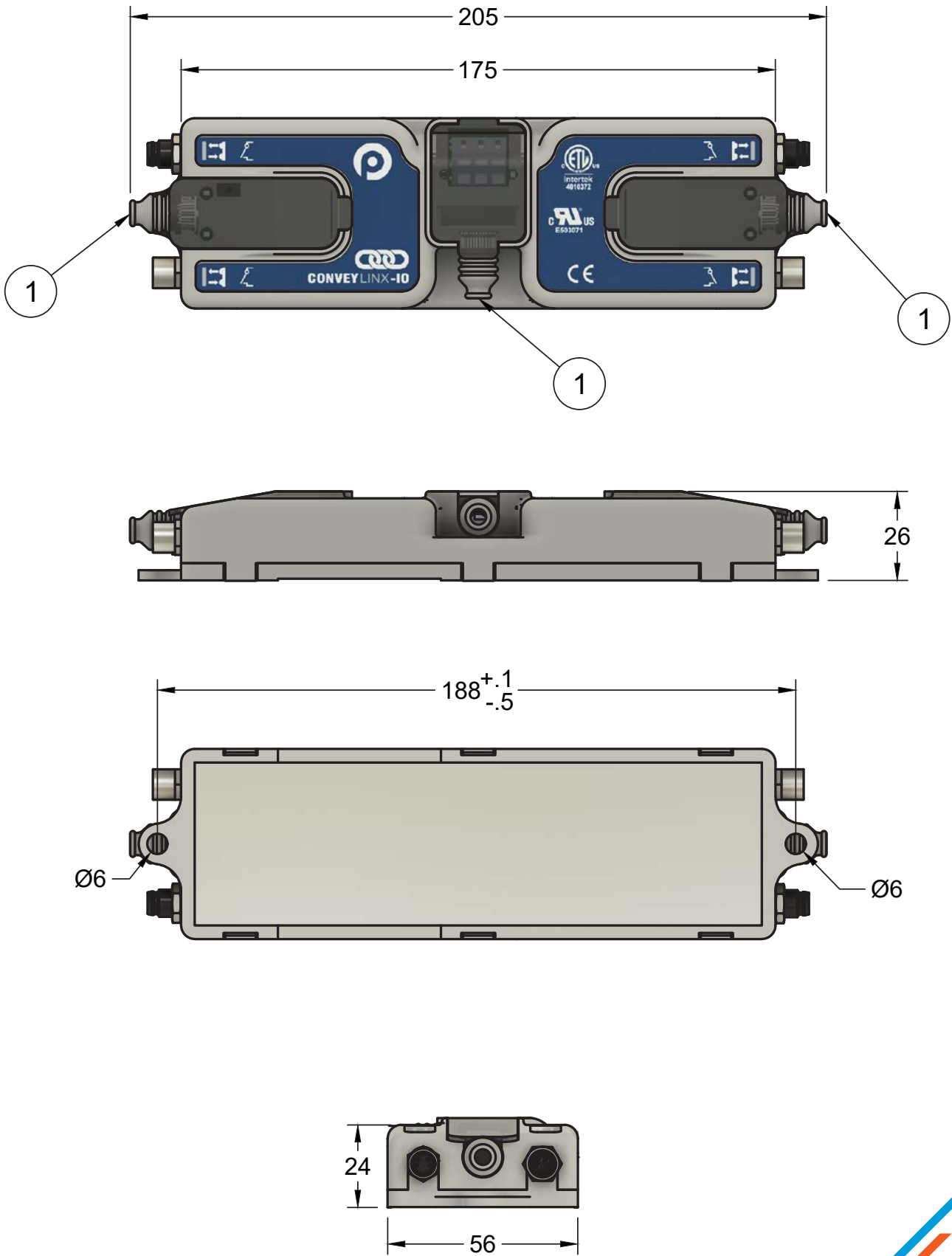
Supported Fieldbus systems



All four above mentioned field busses of ConveyLinx family operate on one hardware. Pulseroller provides for each of those field busses required driver software individually designed for respective PLCs.



Dimensions of ConveyLinx-I/O



1 - Cable Shrouds are shipped unattached and are field installed.

MotionLinx

I/O



Input and Output module for 24V motor rollers and geared drives based on the MotionLinx-Ai.

When a system requires more I/O connections than can be supported by MotionLinx-Ai, the MotionLinx-I/O serves as the perfect extension.

This solution allows for the seamless expansion of complex system layouts, all while maintaining compatibility with Pulseroller products.

Complex system layouts can be supplemented and realised with Pulseroller products in this way. With up to 8 inputs or 8 outputs, MotionLinx I/O offers a high degree of flexibility with very compact dimensions.

Configuration does not require proprietary software but is carried out using Service Data Objects (SDO).

Benefits

- Small footprint for easy installation inside the side-frame
- High flexibility to fit in all applications
- Fast integration in system
- High communication speed
- Real time applications
- Error-free commissioning
- All components from a single source

Features

- 8 configurable I/O points
- Standard I/O pin assignment
- Configuration via SDO
- Separate power supply for the outputs
- Outputs drive up to 300mA permanently
- Data exchange via PDO



General Technical Data

- **Voltage:** 24V DC
- **Protection Class:** IP54
- **Maximum current per output:** 300mA
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** 0°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certifications:** UL, CE, UKCA, RoHS, REACH

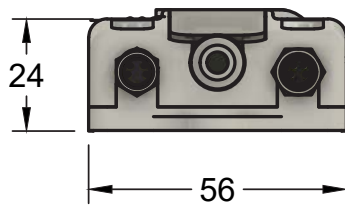
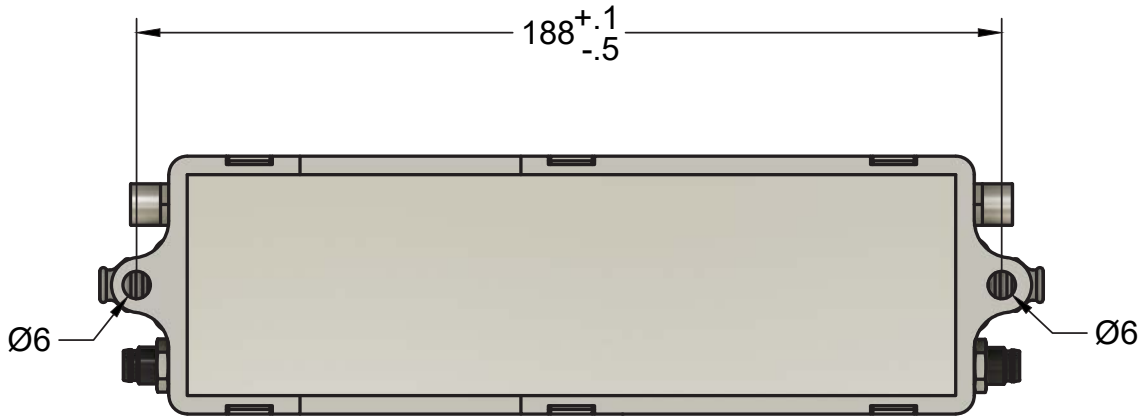
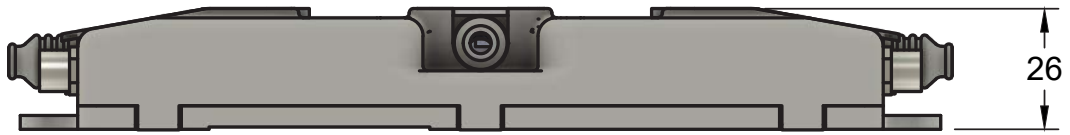
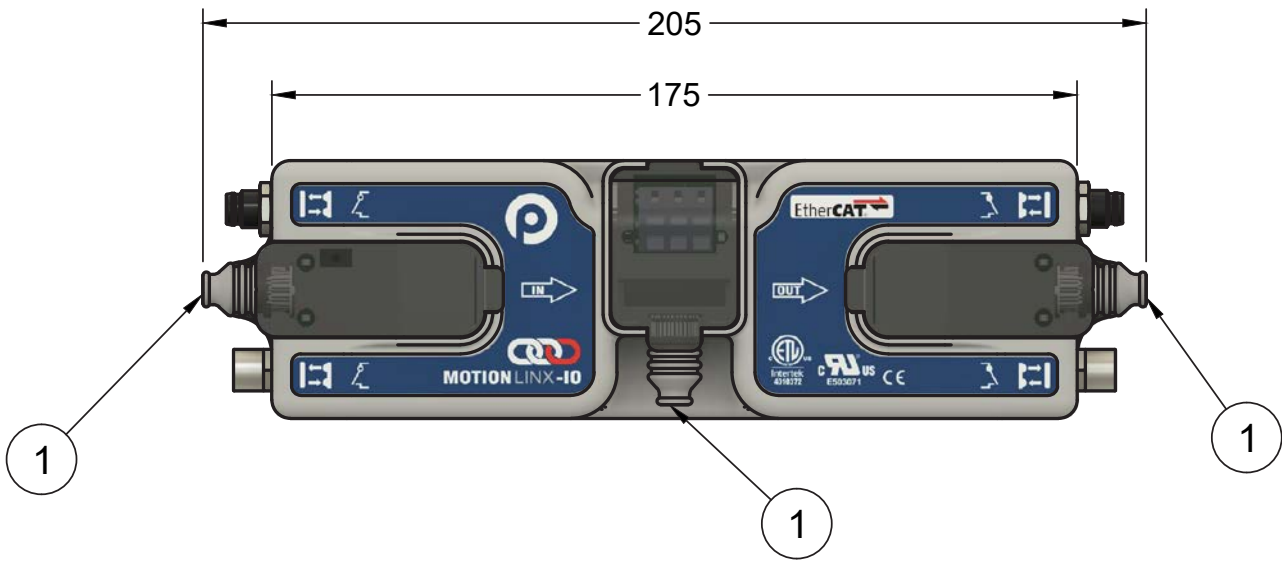
Supported Fieldbus systems

EtherCAT 

Our MotionLinx products are specially designed to support EtherCAT connection.

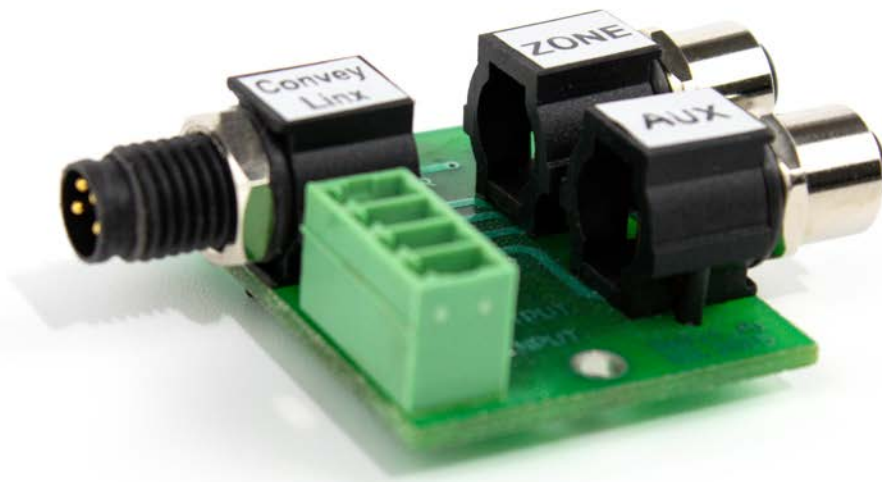


Dimensions of MotionLinx-I/O



1 - Cable Shrouds are shipped unattached and are field installed.

I/O X Interface

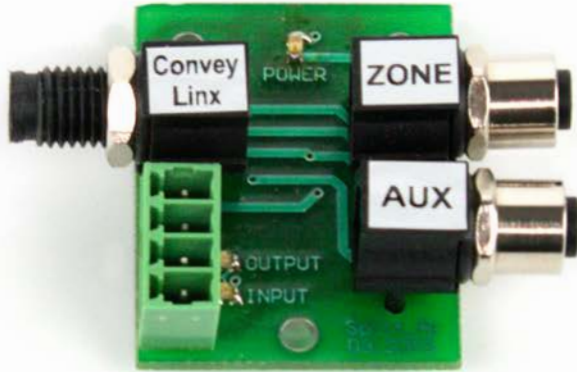


I/O Interface Module

The I/O X interface is a simple but useful addition to the controllers of the ConveyLinx family.

It enables the conversion of the NPN output on the ConveyLinx into a usable PNP output. This enables a complete handshake to upstream and downstre-

am conveyor technology. In addition, the I/O X serves as a splitter for the sensor connection so that two sensors can be connected there using M8.



Benefits

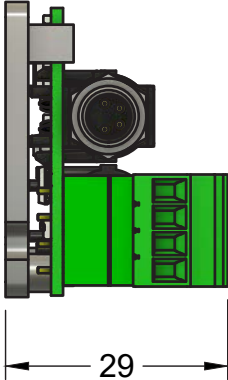
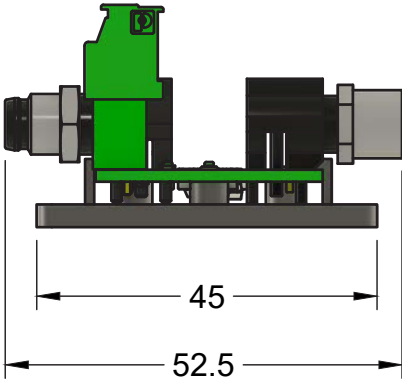
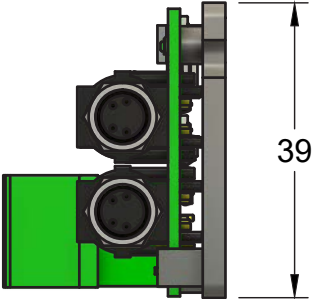
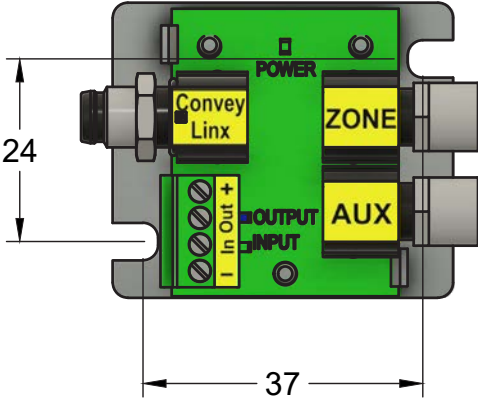
- Full handshake with external systems
- PNP standard for inputs and outputs
- Compact design

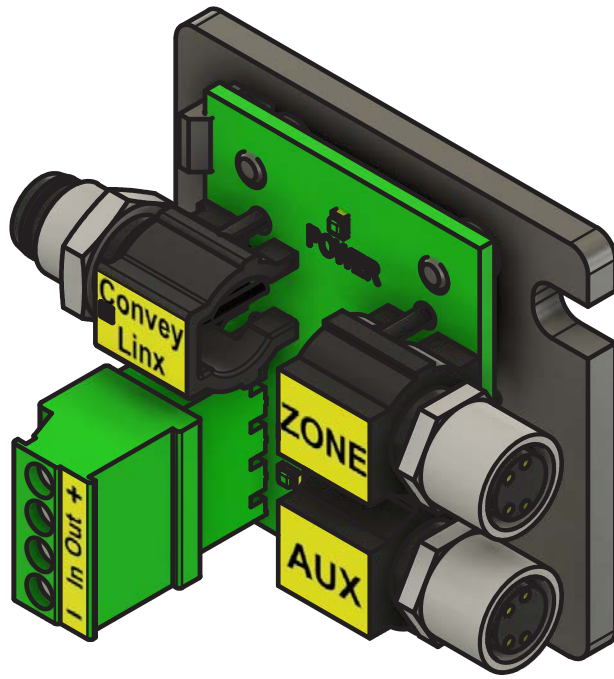
Features

- Conversion of the ConveyLinx Ai2 output to PNP
- Maximum output power 500mAh
- Sensor connection using screw terminal or M8



Dimensions of I/O X Interface







Transfer Units

**Robust and efficient
technology**



Product Overview



Pulse Divert Unit 90 **24V**

Our 90 degree Transfer Unit for 24V applications,
configured based on your needs.

iew



Pulse Popup Unit 30/45 24V

**Our 30 or 45 degree Transfer Unit for 24V applications,
configured based on your needs.**

PDU 90

PDU 90-F

24V



The most reliable 90° degree transfer unit for 24V conveyors.

The very compact and robust mechanical construction offers the advantage of high usability in various environments. In connection with its high traction belts PDU90 offers a trustworthy transfer unit.

PDU90 is a well proven right angle transfer design which has a robust construction and reliable technology. Every PDU90 is specifically configured based on customer's individual needs and conveyor design. The Pulse Divert Unit 90 offers a complete bespoke solution for any transfer requirement.

The PDU90 transfer is controlled by Pulseroller's ConveyLinX-Ai or

MotionLinX-Ai controllers and ensures seamless and easy integration into any conveyor system. There is no need for an additional control bus or pneumatics. Everything is driven and controlled by Pulseroller components creating a high degree of standardization and modularization. Design, integration, and commissioning time is cut significantly freeing up valuable resources.

- Minimum dimensions: 360 x 360mm
- Maximum dimensions: 800 x 800mm
- Minimum roller pitch: 75mm
- Maximum number of belts: 5
- Maximum weight: 50kg
- Transfer height: 15mm

Benefits

- **Seamless integration in Pulseroller applications**
- **Transfer and conveyor independent**
- **Low profile design**
- **High throughput**
- **Simple maintenance**
- **Specially configured for your system**

Features

- **Features Pulseroller Ai-Technology**
- **All motions made by Pulseroller components**
- **Modular design**
- **Robust mechanical design**
- **Controlled by Pulseroller controls**



M8-4Pin standard connector



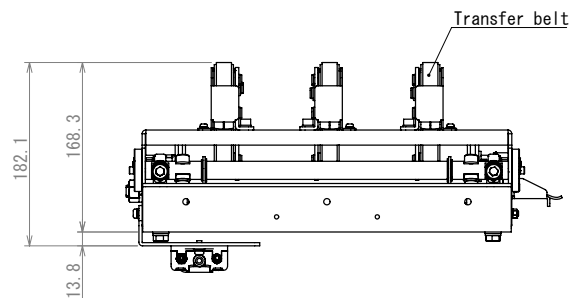
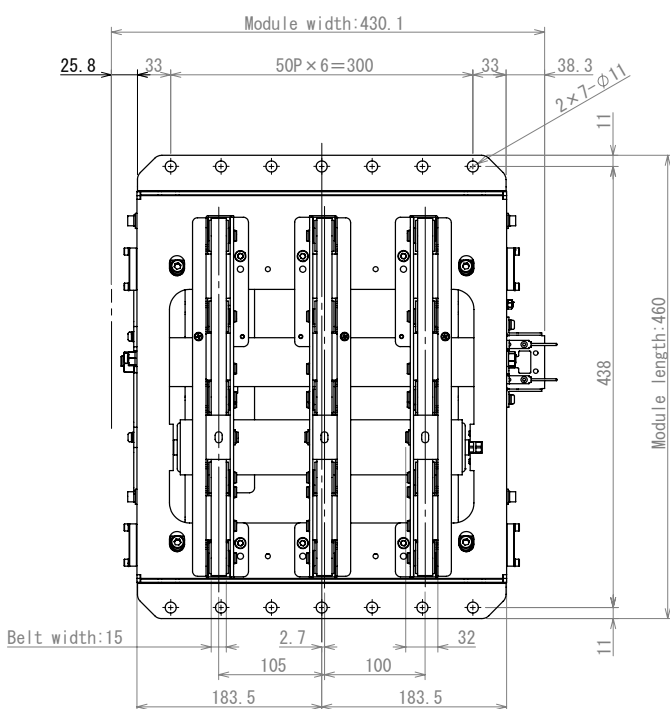
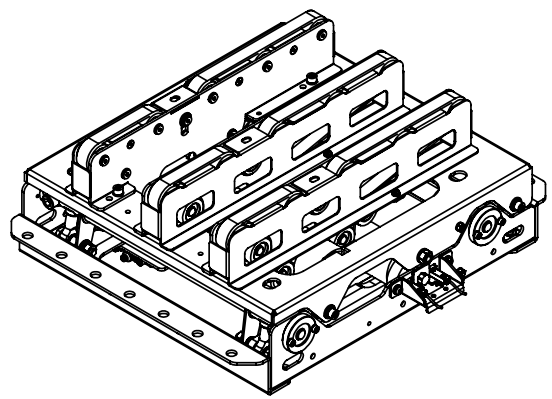
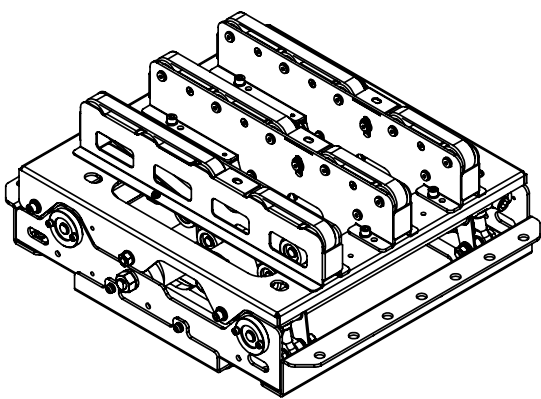
M8-4Pin standard connector on ConveyLinX

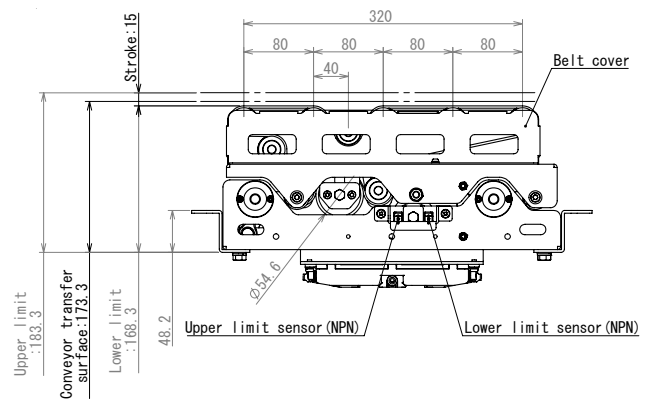
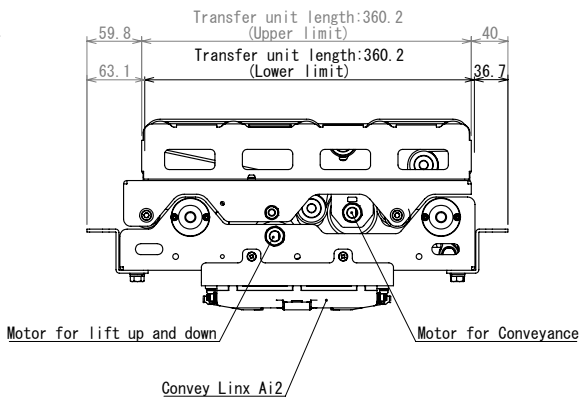


General Technical Data

- **Voltage:** 24V DC
- **Minimal Roller Pitch Option:** 75mm
- **Min. Dimensions:** 360x360mm
- **Maximum Load:** 50kg
- **Lift-Up Stroke:** 15mm
- **Connection:** M8 - 4Pin Connector, 9-Pin JST connector
- **Ambient Temperature:** -30 °C – +40°C
- **Ambient Humidity:** 10 – 90% (No Condensation)
- **Certificates:** UL, CE, UKCA, ROHS, REACH

Reference Drawing (for 400mm conveyor)



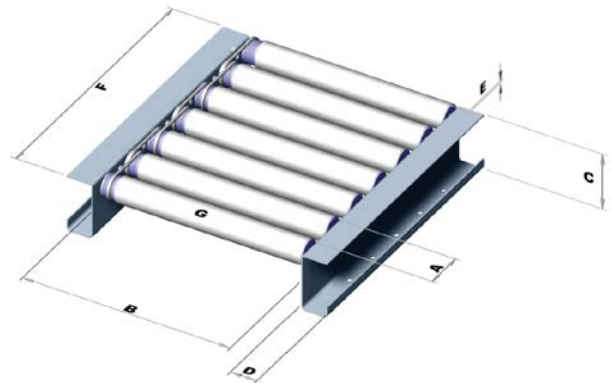


How to Order a PDU90?

PDU90 Units are made to order to fit your specific conveyor dimensions. On this basis, it is a great advantage if you can provide us with a step model of your conveyor system. When you contact Puleroller for a quote or to place an order we will need to know the following dimensions and information:

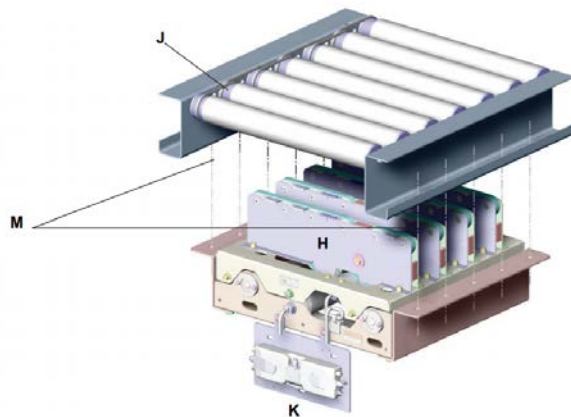
Conveyor Dimensions (Please give all dimensions in mm)

- A Roller Pitch of either 75mm or 100mm¹
- B Conveyor Between Frame (BF)
- C Height of Side Frame
- D Width of Bottom Flange of Side Frame
- E Top of Side Frame to Top of Roller
- F Length of Zone
- G Roller Diameter of either 50mm or 54mm



Andere Optionen

- H Transfer Belt Units - Specify if you want 2, 3 or 4
- J Interlocking - Specify whether your conveyor has Micro-V or Grooves with O-Bands. If using O-Bands, specify the dimension from the end of the roller to the centerline of the first groove and the dimension between groove centerlines.
- K Motor/Control - Specify Senergy JST (9Pin) or Senergy-Ai (4Pin)²
- L Minimum and maximum dimensions of the conveyed goods and maximum weight of the conveyed goods



Mounting Considerations

- M³ Mounting holes on Side Frame Bottom Flanges are assumed to be 9mm Dia.
- Mounting holes are assumed to be centered along the width of the side Frame Bottom Flanges.
- Mounting holes are assumed to be aligned with the conveyor's roller centers.

Area under PDU90 has to be free of any conveyor supports or cross-members.

¹ Irregular Roller Pitches may be accommodated. Contact us for details.

² For Senergy-Ai motor rollers, you can specify ConveyLinx-Ai2 or MotionLinx-Ai controllers.

³ Different mounting hole size/or locations can be accommodated. Be sure to include the details when you contact us.

PPU 30/45

24V



The high-speed 30° or 45° degree diverter for 24V conveyors.

The PPU30/45 24V from Pulseroller is the perfect 30° or 45° divert transfer for requirements of modern intralogistics. The very compact and robust mechanical construction offers the advantage of high usability in various environments. With different wheel angles and configurations it ensures flexibility for various setups.

The PPU30/45 provides a highly efficient and compact solution for transferring goods in any material handling application.

The design of PPU30/45 is perfectly adaptable for a wide variety of roller conveyors. The fast dynamic operating speed of the unit enables extremely high transfer rates to be achieved ensuring maximum conveyor throughput. The angle of the wheels is selectable and can be adapted to the layout of the conveyor from the outset. Left-hand or right-hand options are available at time of order.

By using Pulseroller's ConveyLinx or MotionLinx the PPU30/45 fits perfectly into the control environment of any

roller conveyor system. As the lifting movement of the transfer is conducted by means of a motor roller the unit can operate completely without pneumatics. This creates a high degree of flexibility coupled with low operating costs.

The control technology of ConveyLinx allows full stand-alone operation whereby the function program is stored directly in the control system. Alternatively, the entire control can be managed centrally via the PLC. This makes the PPU30/45 another key component of our product portfolio.

Benefits

- **Seamless integration in Pulseroller applications**
- **Transfer and conveyor independent**
- **Easy installation**
- **High throughput**
- **Simple maintenance**
- **Specially configured for your system**

Features

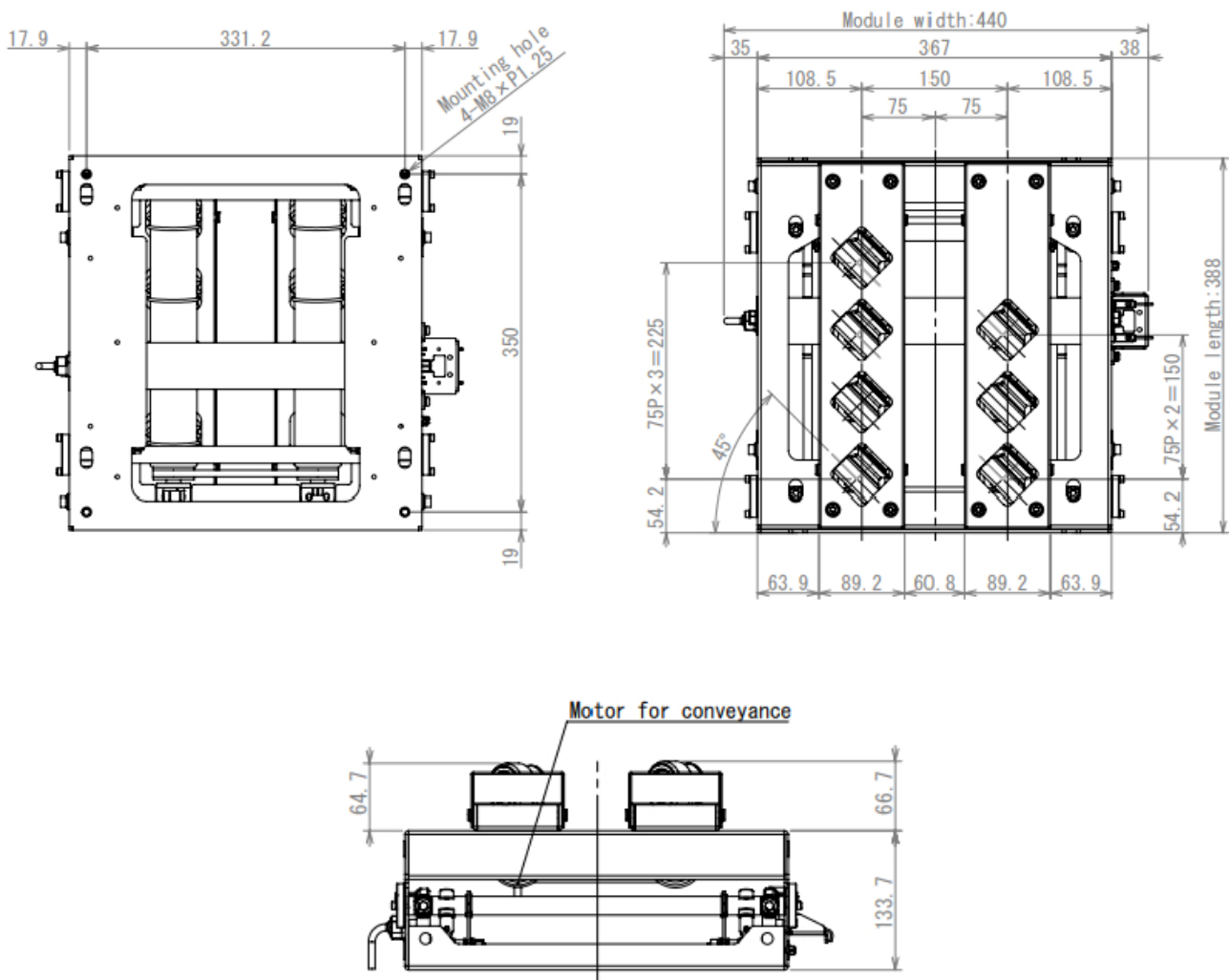
- **Features Pulseroller Ai-Technology**
- **All motions made by Pulseroller components**
- **30° or 45° divert angle**
- **Robust mechanical design**
- **Controlled by Pulseroller controls**

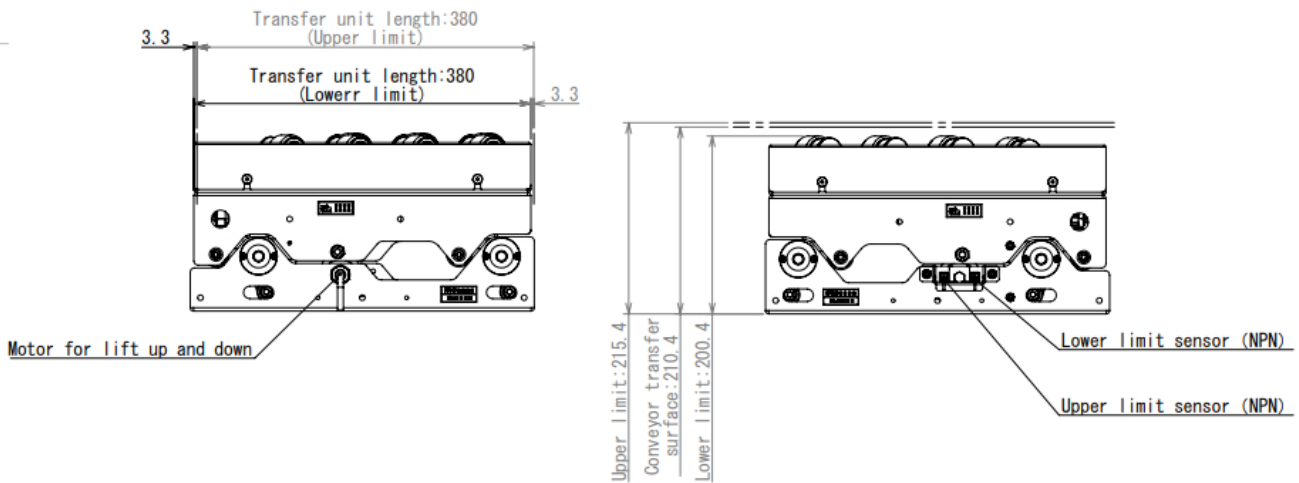
4-Pin M8 standard connector

General Technical Data

- **Voltage:** 24V DC
- **Number of Drive Wheels:** 4 - 7 per stroke
- **Min. Dimensions:** 440x388mm
- **Max. Dimensions:** 440x688mm
- **Max. Load Capacity:** 30kg
- **Lift-Up Stroke:** 15mm
- **Connection:** M8 - 4Pin Connector, 9-Pin JST connector
- **Ambient Temperature:** -10°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Certificates:** UL, CE, UKCA, ROHS, REACH

Reference Drawing (for 400mm conveyor)



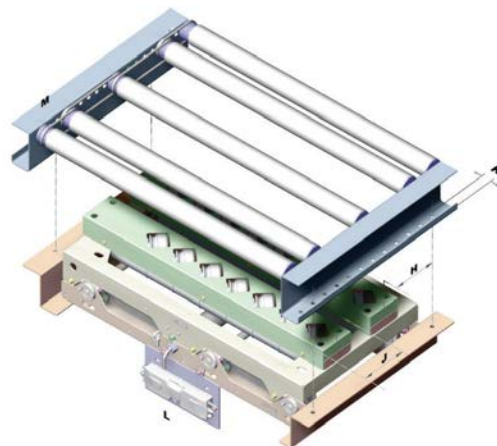
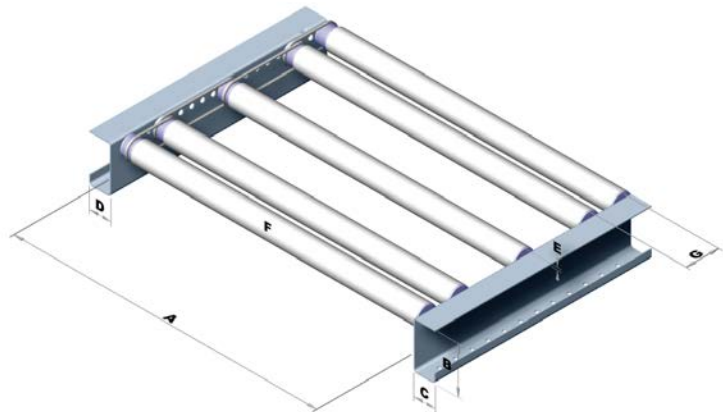


How to Order a PDU30/45?

Each unit is made to order and its mounting is custom made to match your particular conveyor dimensions. On this basis, it is a great advantage if you can provide us with a step model of your conveyor system. When you contact Pulseroller to place an order for the part number you want, we will need to know the following additional information to complete your order:

Conveyor Dimensions *(Please give all dimensions in mm)*

- A** Conveyor Between Frame (BF)
- B** Height of Conveyor Frame
- C** Width of bottom flange of conveyor frame
- D** Width of opposite conveyor frame flange (if different from C)
- E** Distance from top of conveyor frame to top of roller
- F** Roller diameter 50mm or 54mm
- G** Roller center pitch
- H** Distance from centerline of 1st PPU Lifting Unit to centerline of bottom frame flange mounting hole¹
- J** Distance from centerline of 2st PPU Lifting Unit to centerline of bottom frame flange mounting hole¹
- K** Distance from edge of bottom flange to centerline of mounting holes¹
- L** Motor/Control - Specify Senergy (JST) or Senergy-Ai (M8 - 4Pin)²
- M** Interlocking - Specify if your conveyor has Micro-V or Grooves with O-Bands.
- N** Minimum and maximum dimensions of the conveyed goods and maximum weight of the conveyed goods



Mounting Considerations

Area under PPU30/45 has to be free of any conveyor supports or cross-members.

¹ Irregular mounting hole pitches and locations may be accommodated. Contact us for details.

² For Senergy-Ai motor rollers, you can specify ConveyLinx-Ai2 or MotionLinx-Ai controllers.



Useful Information

ations.

EasyRoll

The upgrade for your control software.

EasyRoll+ serves as the sophisticated configuration software for the ConveyLinx controller family. Functioning as a crucial tool for the autoconfiguration and parameterization of zero-pressure accumulation conveyors governed by ConveyLinx controllers, this software empowers users to tailor the conveyor's functionality to their specific requirements with effortless clicks, thanks to a diverse array of adjustable parameters.

Moreover, EasyRoll+ functions as an offline configuration tool, enabling users to develop projects in their offices without the need for a connection to ConveyLinx. This allows for the meticulous adjustment of all parameters according to the conveyor layout. These offline projects can be efficiently managed and subsequently downloaded onto the corresponding conveyor installations. Additionally, EasyRoll+ facilitates the creation of backups for existing conveyor installations, providing a valuable resource for remote analytical purposes.

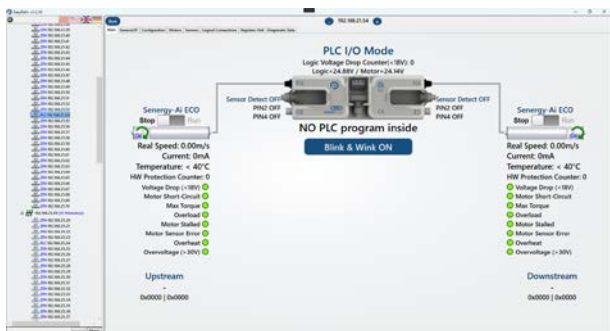
This feature enables the visualization of the configuration state to a remote expert, aiding in the resolution of potential issues.

EasyRoll+ goes beyond mere configuration capabilities; it is a robust analytical tool equipped with scope functionalities. This aspect allows users to delve into the dynamic operational states of the conveyor, providing valuable insights. Notably, critical conditions may arise infrequently, necessitating timely capture when they occur. To address this, EasyRoll+ offers the option to establish

a "data-trap" by defining trigger parameters and read parameters. This functionality enables ConveyLinx to wait until a critical condition arises, capturing relevant scope parameters instantly for later retrieval by the interested user.

In summary, EasyRoll+ amalgamates various functions to offer a comprehensive and powerful tool for setting up, operating, and troubleshooting virtually any application utilizing our drive products.

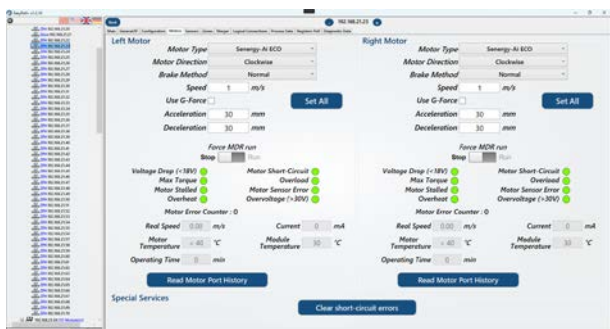
Download our newest version of EasyRoll+ at:
www.pulseroller.com



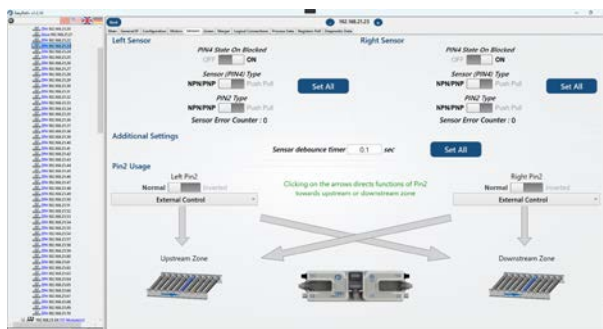
EasyRoll+: PLC-I/O Mode



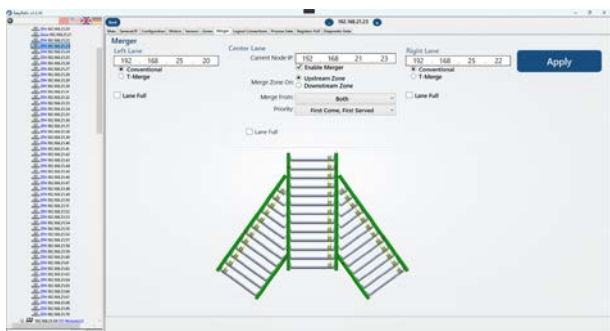
EasyRoll+: ZPA Mode



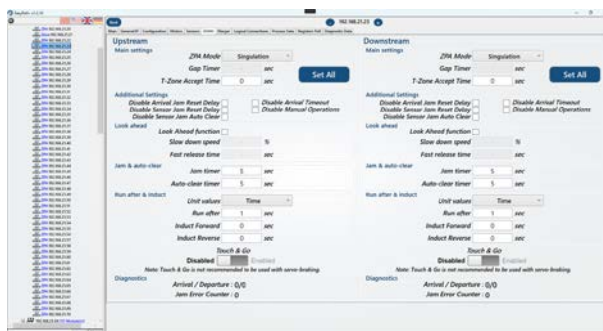
EasyRoll+: Motor settings



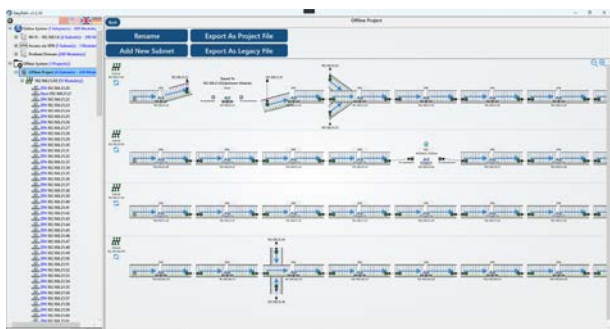
EasyRoll+: Sensor settings



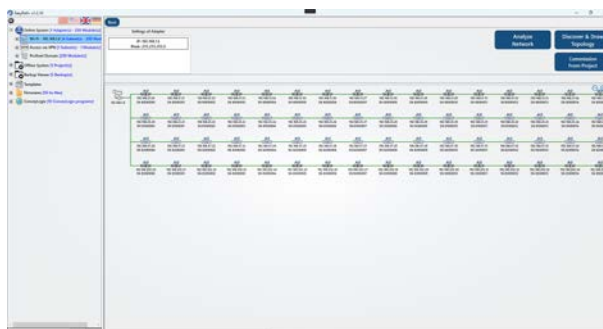
EasyRoll+: Merger settings



EasyRoll+: Zones settings



EasyRoll+: Offline project



EasyRoll+: Topology

Conveyors

and Technology

Diagnostic Data.

Ensuring the seamless and enduring operation of a conveyor necessitates vigilant monitoring of its operational parameters. ConveyLinx provides the capability to transmit a multitude of

critical drive data online, enabling the visualization of the conveyor's status. Drawing from customer insights, this data can be leveraged to establish critical thresholds and warning limits, thereby

ensuring the proactive resolution of mechanical issues before they escalate, potentially causing damage and leading to unplanned downtime.

ZPA Conveyor Technology.

In its fundamental operational mode, ConveyLinx functions as an autonomous zero-pressure accumulation logic controller. Through the combined utilization of ConveyLinx and EasyRoll+, users can establish a self-contained and self-operating conveyor system, devoid of any dependency on upper-level controls.

Nevertheless, the system offers ample opportunities for establishing seamless communication, or a "handshake," between adjacent conveyors or other systems in the upstream and downstream directions.

This interconnection is achievable through various means, including digital I/Os or

by integrating specific ConveyLinx units requiring interaction with other equipment via their IP addresses, facilitated on a PLC. ConveyLinx stands out as a remarkably versatile and flexible conveyor controller, adept at interfacing with diverse systems through multiple avenues.

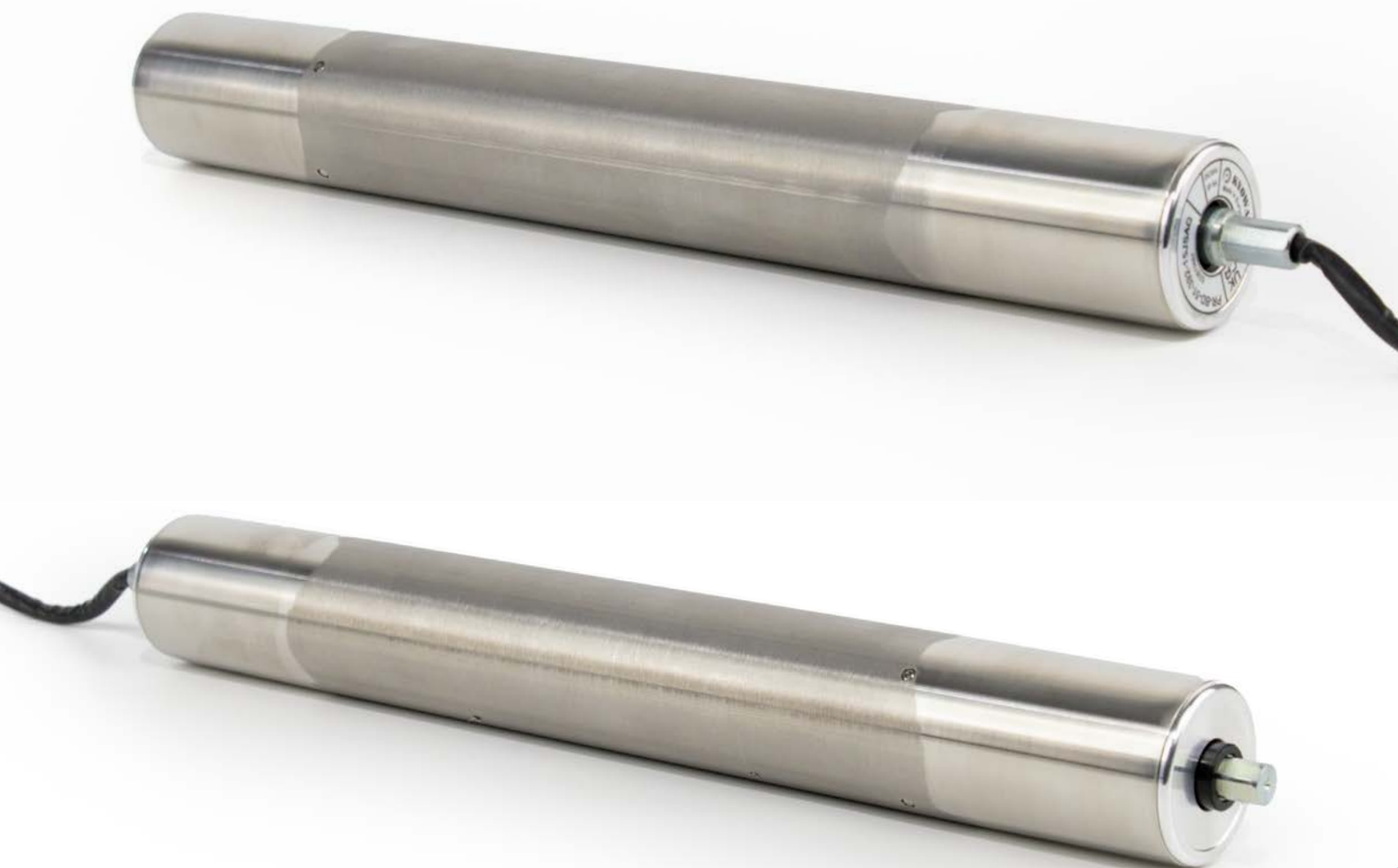
Belt Conveyor Technology

Pulseroller presents a comprehensive selection of motor rollers featuring crowned tubes tailored for belted conveyors. The strategic implementation of crowning effectively mitigates the risk of belt deviation from the roller. The crowned roller, crafted from a 51x2mm tube, undergoes precision machining

on both ends to align with the specific requirements of each customer.

It is imperative to note that the usage of flexible belts is strongly recommended. Belts incorporating a fabric reinforcement layer generate excessive tension, posing

a potential threat to the integrity of the motor roller's bearings and, in extreme cases, leading to damage or destruction. We encourage you to engage with our technical support team to receive guidance on the types of belts suitable for ensuring a safe and secure operational environment.



Products

and Combinations

Torque transmissions

Pulseroller presents an extensive array of torque transmissions spanning from motor rollers to idler rollers. Notably, Multi Rib belts and O-rings have evolved into an industrial standard,

widely adopted across the majority of applications. Remarkably versatile, these belts find application even in curved conveyor sections, where the integration of taper motor rollers and

idler rollers allows for their effective use, albeit with specific design restrictions contingent upon the assembly precision of the conveyor.

Piercing Technology.

In order to facilitate a seamless and expeditious installation process for ConveyLinx, Pulseroller has innovatively designed two versions incorporating piercing technology. This innovative approach involves the utilization of

needles to pierce through the insulation of the cable for power connection. One version is built around an ASI-Bus flat cable, featuring 2.5mm² cables, while the other variant utilizes a 6mm² round cable. From a controls and integration

standpoint, both versions are identical. The choice between them ultimately hinges on the integrator's preference, allowing for flexibility in selecting and employing the preferred cable type.



HBR in combination with ConveyLinx and Senergy-Ai.

In the case of incline and decline conveyors, numerous belted zones are employed. While our motor rollers are equipped with an electrical brake leveraging the motor rotor to maintain position against hill-force, this mechanism is ineffective when the power is switched off. In order to prevent the unintended movement of goods due to gravity, Pulseroller introduces the Holding Brake Roller. Conceptually resembling a motor roller without a gearbox, it essentially comprises a

gearbox connected to a spring-loaded, solenoid-activated mechanical brake.

This roller, seamlessly integrated and controlled by ConveyLinx, mirrors the appearance and installation process of a motor roller.

The synergy between ConveyLinx and the Holding Brake Roller is particularly advantageous. ConveyLinx adeptly identifies whether a motor roller or a brake roller is connected.

When both are present in a zone, ConveyLinx orchestrates the concurrent operation of both rollers, seamlessly combining their functions. For optimal performance, it is recommended to install the motor roller at the upper position and the brake roller at the lower position within the belted zone. Ideally, both rollers should be in a crowned shape, resulting in an impeccably tailored solution for both incline and decline zones.







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