CCM: Conveyor Control Motor

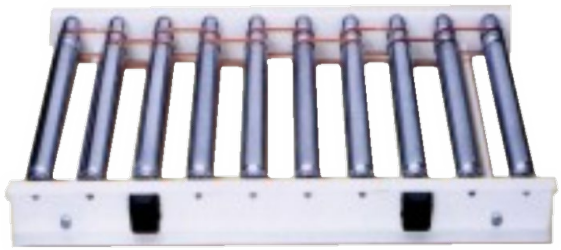
CCM: Conveyor Control Motor (Page 1)

IAI Quality and Innovation

Potential Applications

- Applications where air cylinders are extensively used for conveyor transportation.
- Compatibility when using other IAI products on the same machine.

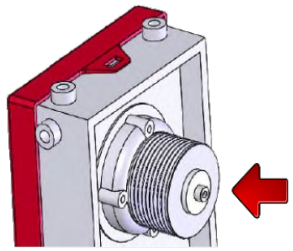
Conveyor motor functions and rollers can be powered by IAI products.



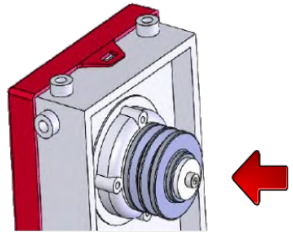
CCM: Conveyor Control Motor (Page 2)

Appearance

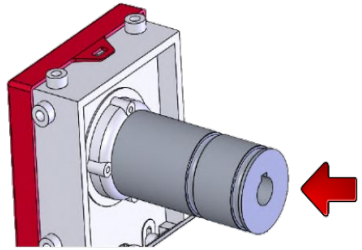
Three types of pulleys



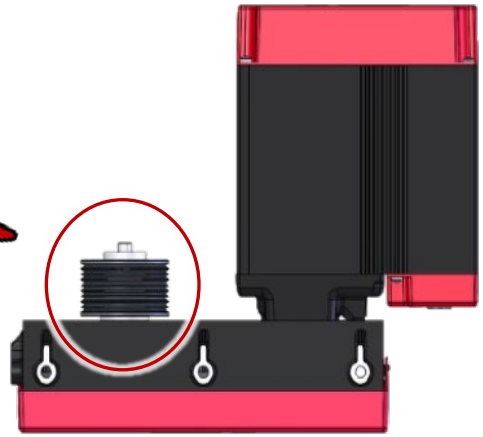
V ribbed belts

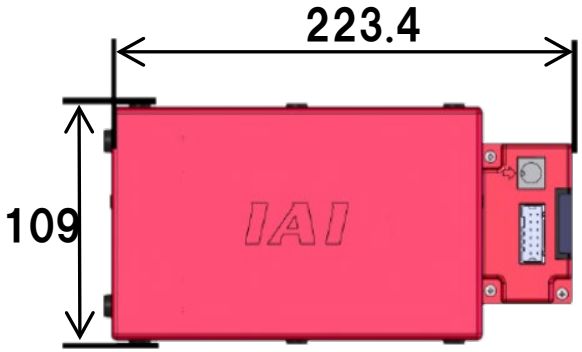


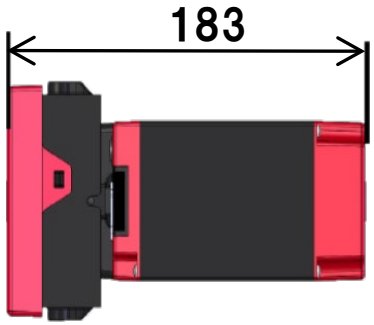
V belt



Round belt







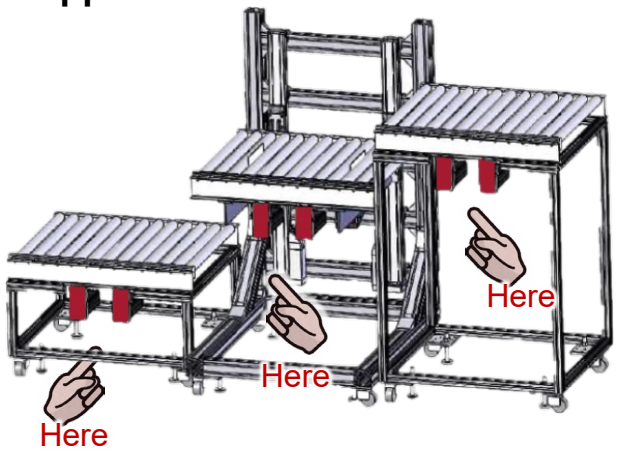
CCM: Conveyor Control Motor

Target

Example application 1:
Short distance travel on conveyors connected with
sliding up and down conveyor

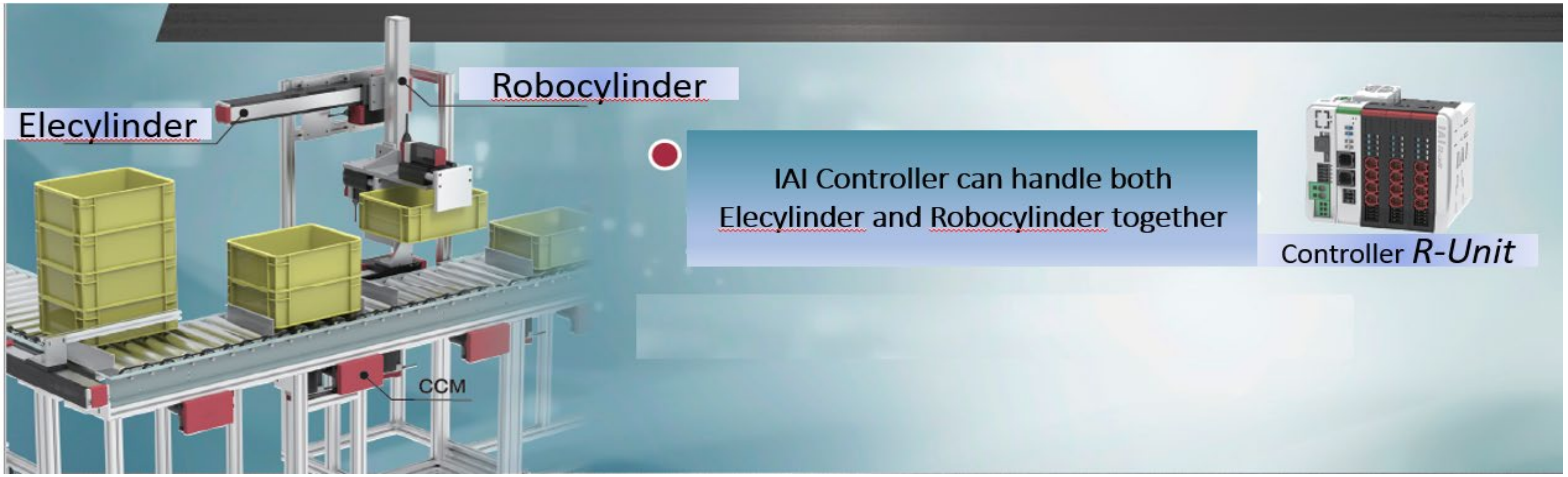
Example application 2:
Short distance travel before entering and after exiting the machine.

Application 1

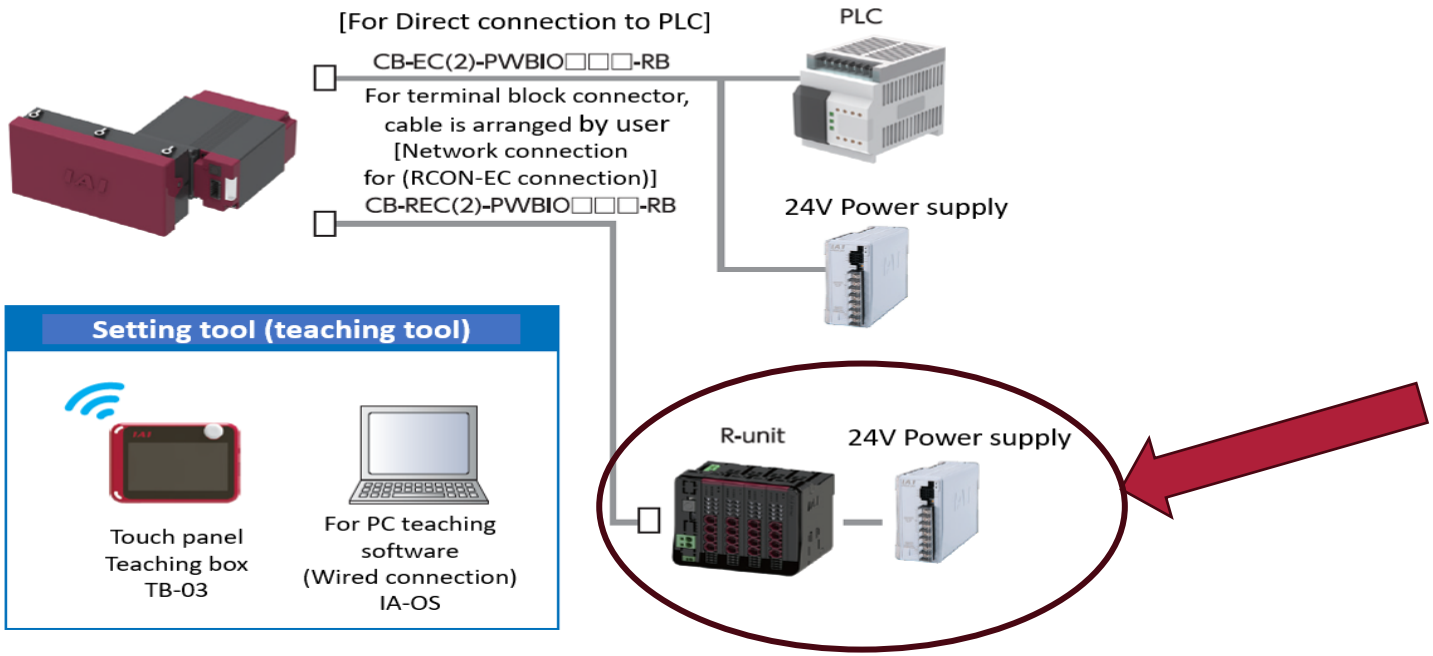


Application 2

Application 1: System configuration with R-Unit controller



System configuration



CCM: Conveyor Control Motor (Page 4)

IAI Quality and Innovation

Advantages

Advantages of Motor Roller

Energy-saving effects ..... Save energy by powering down when there is nothing on the line.

Motor + inverter etc. are basically continuously running on conveyors without motor rollers・・・

No stopper required ..... If you want to stop the conveyor, just stop the rollers!

CCM Merit

Maintenance parts ..... Motor rollers require different spare parts for each conveyor width.

CCM units have the same spare parts regardless of conveyor width.

Common controls ..... CCM can connect to R-unit as well, making it possible to use them with other IAI products.

The general motor roller merits also apply to the CCM

CCM: Conveyor Control Motor

Movement possible with CCM

- Rotation ON/OFF [IN0] Rotation order
- Rotation direction order (CCW/CW) [IN1] Direction order
- Alarm reset [IN2] Alarm release

Pin number	Signal name	Explanation
A1	0V	Ground
A2	RSV(CP: When Power 2 input)	Reserved (When power 2 input Control power 24V)
A3	OUT0	Motor rotation condition indication (Stop / Rotate)
A4	OUT1	Rotation direction indication (CCW/CW)
A5	OUT2	*ALM
A6	RSV(OUT3)(SD-)	Reserved (RCON-EC type RS485 differential signal – side)
B1	24V(MP: When Power 2 input)	24V (When power 2 input motor power type 24V)
B2	RSV (BKRLS)	Reserved (Brake release input)
B3	IN0	Rotation OFF / ON command
B4	IN1	Rotation direction command (CCW/CW)
B5	IN2	Alarm reset
B6	RSV(IN3)(SD+)	Reserved (RCON-EC type RS485 differential signal +side)

Terminal connector indication

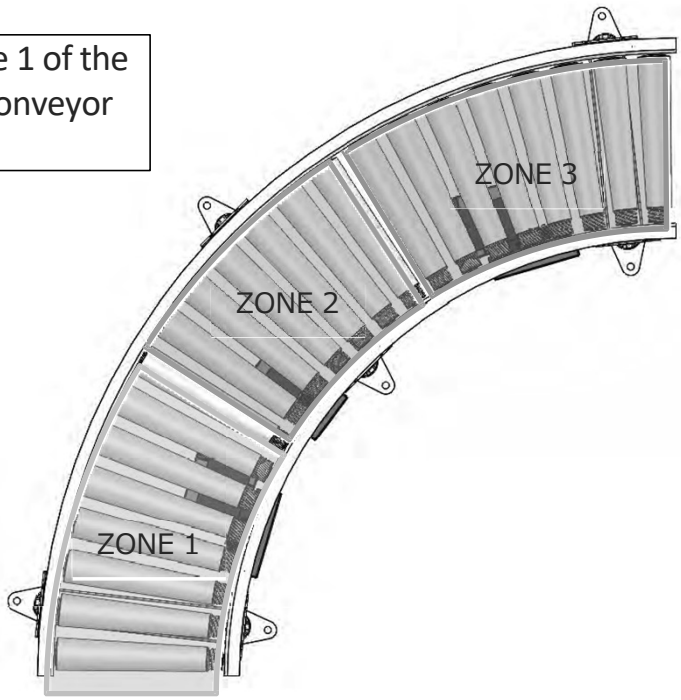
Pin number	Name plate name	In English
A1	0V	0V
A2	Reserved(CP24V)	RESERVE (CP24V)
A3	During rotation	MOVE
A4	Rotation direction	CW/CCW
A5	Alarm	ALARM
A6	Reserved	RESERVE
B1	24V(MP24V)	24V(MP24V)
B2	Reserved	RESERVE
B3	Rotation command	START
B4	Direction command	DIRCMD
B5	Alarm release	ALMRST
B6	Reserved	RESERVE

Motor stop condition can be set to “Free run” in the parameters (Sets Servo ON as the standard condition)

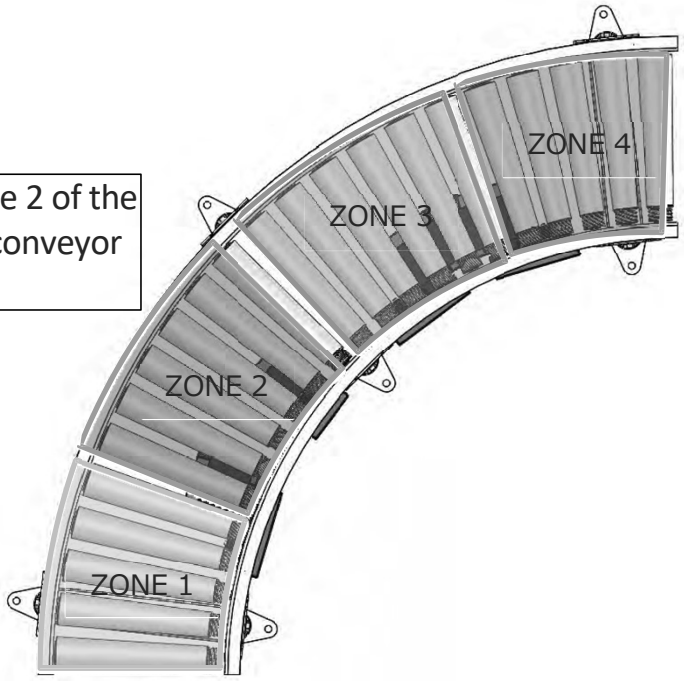
(2) Attaching to the curve conveyor

To make it evenly spaced, use 3 or 4 of the CCMs in 90 degree curve to install in tapper rolled used conveyor. Any obstacles or interference between the CCMs must be avoided. Maximum interlocking number should be 8 to evenly place CCMs. Use of circular or V ribbed belt is possible to interlock curve conveyor. V belt can not be used. If pitch angle of the roller exceeds 5 degree V ribbed belt can not be used.
(Please consult the belt related part of the manual or specification sheet if there is any.)

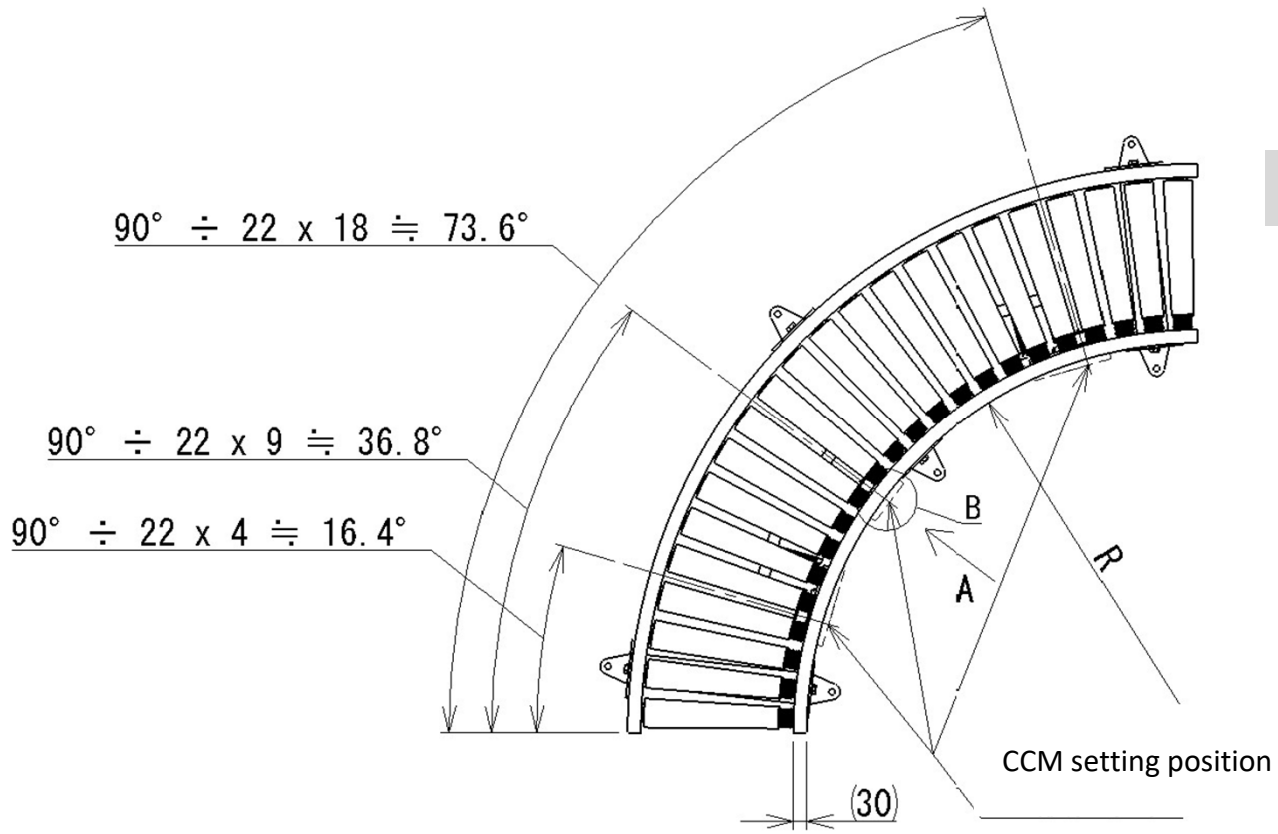
Layout example 1 of the CCM in curve conveyor

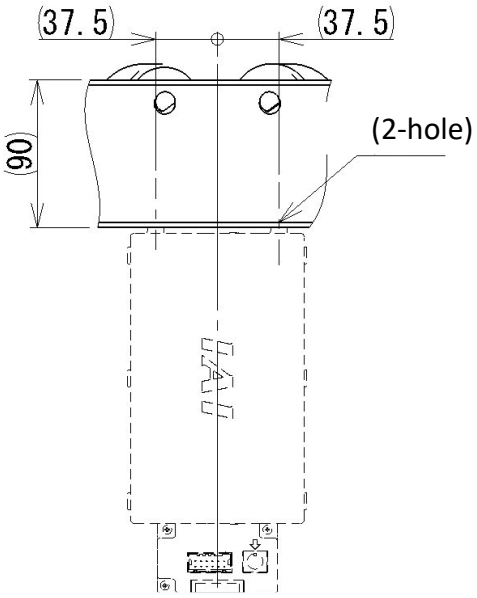


Layout example 2 of the CCM in curve conveyor

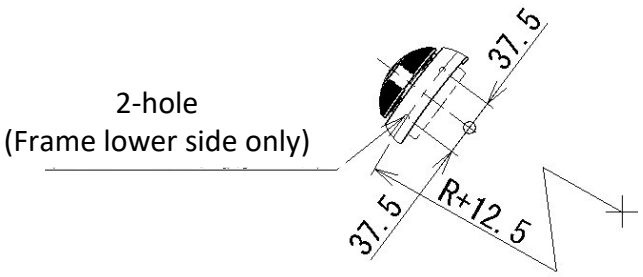


Even for the curve conveyor, decide the drilling position as if it is a straight conveyor.





A view



Details drawing B

Example:

For setting of CCM in a curve conveyor with 22 rollers (roller pitch's angle 4.1°) evenly spaced within 90°, motor position can be right sided, lower sided or left sided similar to the straight conveyor system. However, lower sided motor setup is recommended. Note that, hole positions are two in both cases. In case of right-directed or left-directed installation of motor, use the mounting hole close to the pulley.