

## Driver card for PM380/427VS

## CBV30

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## [Applicable MDR models]

PM380VS・PM427VS

## [Driver card model]

CBV30-UL-N

N : NPN signal input  
and output  
P : PNP signal input  
and output

## Standard Accessories

- Power connector(CN 1) 1pce
- Control connector(CN 2) 1pce
- Mounting screws and nuts Screw M4×15 2pcs
- Nut M4 2pcs



## ■ Stable speed function

Transfer speed is kept stable regardless of the load variation.  
It helps improve transfer accuracy.

## ■ Adopts 6pin D-shaped connector

Prevent mis-wiring and easy maintenance.

## ■ Smallest driver card fit in 60mm frame height

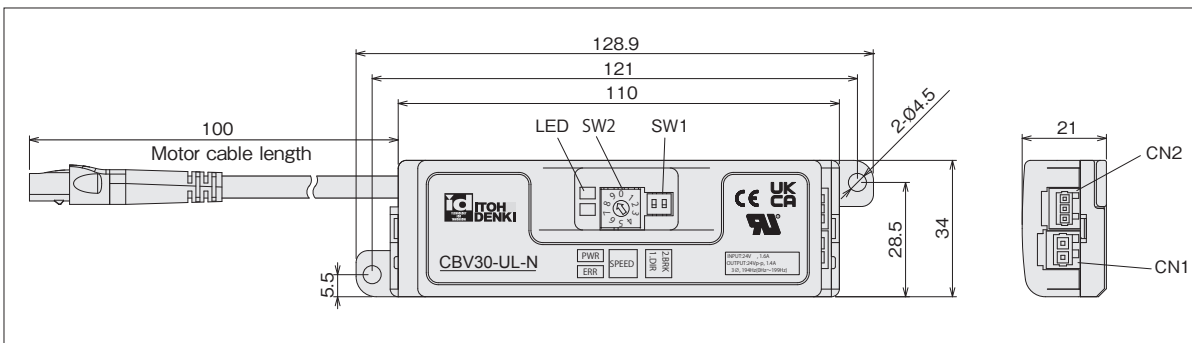
Realize a thin conveyor by smallest driver card.

## ■ Speed can be set in 10 steps

Speed variation for each driver card is adjustable with rotary switch.

## ■ Error types are identified

LED indication identifies the type of error; thermal, motor lock, low voltage, back EMF, blown fuse and motor disconnected.



## ●SW1 (DIP switch)

| ON ON  |                      |                    |                     |                 |  |
|--------|----------------------|--------------------|---------------------|-----------------|--|
| Number | Description          | ON                 | OFF                 | Factory setting |  |
| 1      | Rotating direction   | Refer to next page |                     | OFF             |  |
| 2      | Switching brake type | Servo brake        | Short circuit brake | OFF             |  |

## ●CN(connector)

|                       |    |        |
|-----------------------|----|--------|
| CN1<br>(Power supply) | #2 | 0V     |
|                       | #1 | 24V DC |

| CN2<br>(Control) | No. | Function | Application                            |
|------------------|-----|----------|----------------------------------------|
|                  | #3  | STTS     | STATUS (Signal output)                 |
|                  | #2  | DIR      | Switching of the direction of rotation |
|                  | #1  | RUN      | Start/Stop (RUN/STOP)                  |

## ●SW2(Rotary switch)

### Internal speed setting

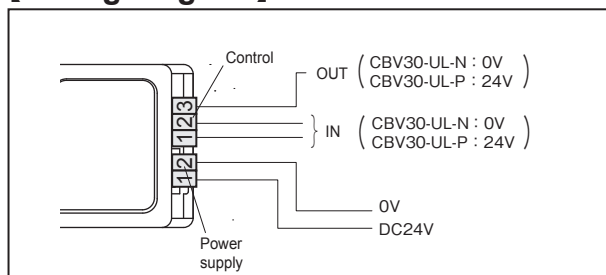
| SW2             |         |                  | 9    | 8    | 7    | 6    | 5    | 4    | 3    | 2    | 1   | 0   |
|-----------------|---------|------------------|------|------|------|------|------|------|------|------|-----|-----|
| Specified speed | PM380VS | Nominal speed 17 | 17.4 | 14.5 | 11.6 | 8.7  | 7.2  | 5.8  | 4.3  | 2.9  | 2.3 | 1.5 |
|                 |         | Nominal speed 60 | 60.0 | 50.0 | 40.0 | 30.0 | 25.0 | 20.0 | 15.0 | 10.0 | 8.0 | 5.0 |
|                 | PM427VS | Nominal speed 17 | 19.5 | 16.3 | 13.0 | 9.8  | 8.1  | 6.5  | 4.9  | 3.3  | 2.6 | 1.6 |
|                 |         | Nominal speed 60 | 67.4 | 56.2 | 45.0 | 33.7 | 28.1 | 22.5 | 16.9 | 11.2 | 9.0 | 5.6 |

:Factory setting

## ●LED

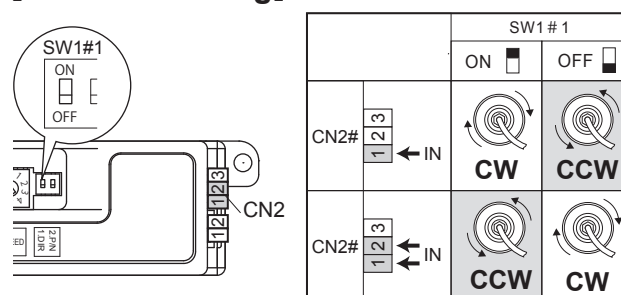
|  |             |                                             |
|--|-------------|---------------------------------------------|
|  | PWR (Green) | Power status and error types are indicated. |
|  | ERR (Red)   |                                             |

## Wiring diagram



- \*Wiring should be made while the product is not powered.
- \*Switch for Run/stop or CW/CCW is an option and is not supplied.
- \*Relay contact or PLC output can be used instead of the above switch.

## Direction setting

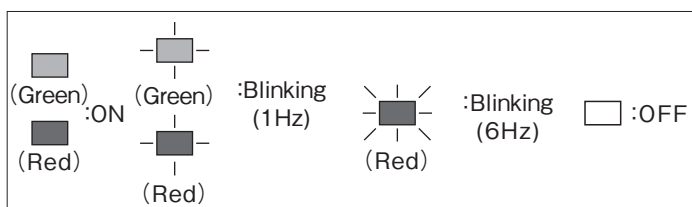


- Direction setting by SW1#1 is not available during transferring (MDR running).

## Specifications

|                                              |                         |                                                           |
|----------------------------------------------|-------------------------|-----------------------------------------------------------|
| Model                                        |                         | CBV30-UL-□ (N/P)                                          |
| Power supply voltage                         |                         | 24V DC±10%                                                |
| Rated voltage                                |                         | 24V DC                                                    |
| Static current                               |                         | 0.05A                                                     |
| Starting current                             |                         | 2.6A±0.2A                                                 |
| Peak current                                 |                         | 20A≤1msec                                                 |
| Wire diameter                                | Power connector (CN1)   | WAGO734-102<br>Wire diameter : 0.5 to 1.5mm <sup>2</sup>  |
|                                              | Control connector (CN2) | WAGO733-103<br>Wire diameter : 0.08 to 0.5mm <sup>2</sup> |
| Time from RUN signal input to motor starting |                         | 20msec or less                                            |
| Thermal protection                           |                         | Driver card unit:95℃ Motor:110℃                           |
| Operating environment                        | Ambient temperature     | 0 to 40℃ (no freezing)                                    |
|                                              | Ambient humidity        | 90%RH or less (no condensation)                           |
|                                              | Atmosphere              | No corrosive gas                                          |
|                                              | Vibration               | 1.0G or less                                              |
|                                              | Installation location   | Indoor                                                    |

## Error details



| PWR(Green)<br>ERR(Red) | CN2#3<br>STTS<br>signal | Type of error               |
|------------------------|-------------------------|-----------------------------|
|                        | Output                  | Normal operation            |
|                        | Open                    | Fuse blown                  |
|                        | Open                    | Low voltage                 |
|                        | Open                    | Motor connector unconnected |
|                        | Open                    | Driver card thermal error   |
|                        | Open                    | MDR thermal error           |
|                        | Open                    | Motor lock                  |
|                        | Open                    | Back EMF error              |
|                        | Output                  | Current limiter * enabled   |

Error can be checked by PWR (Green), ERR (Red) and a signal from CN2#3.  
 \*Activated when MDR is overloaded. Error signal is not discharged when current limiter is enabled.  
 LED indication is reset by disabling current limiter.