

Directional Control Driver for Electric Cylinder

Series LC3F2

LC3F212-5A3

LC3F212-5A5

Able to control the stroke with only **ON/OFF** signals.

Directional control driver like a solenoid valve

Able to set thrust arbitrarily.

Thrust can be adjusted by adjustment trimmer.

Able to control with only 3 different types of input signals.

1) Directional instruction (2) Thrust selection **3 Output ON/OFF**

Can be operated manually.

Maintenance performance for wiring check has been improved.

Product Specifications

| Model | LC3F212-5A3 | LC3F212-5A5 |
|------------------------|--|-------------|
| Power supply | 24 VDC ± 10% | |
| | Max. 1.3 A | Max. 2.3 A |
| Front side label color | Gray | Blue |
| Input signal | Photocoupler input 24 VDC ±10% Max. 8 mA/point | |
| Selction of thrust | 100% or set value (Setting range 10 to 70% F.S.) | |
| Ambient temperature | +5 to 40°C | |
| Ambient humidity | 35 to 85% Rh (No condensation) | |
| Environment | Indoor (Direct sunlight should be avoided.) | |
| Linvironment | No corrosive gas, inflammable gas, oil mist or dust particle | |
| Display LED | POWER, A-PHASE, OFF, SET | |
| Mass | 145 g | |

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Directional Control Driver for Electric Cylinder Series LC3F2 (E RoHS)

How to Order



Pulling tool: EJ-NV (J.S.T. Mig Co., Ltd.)

Recommended cable connection (common for individual cable) AWG21 (0.5 mm²), Insulated wire O.D. 1.7 to 3.0 mm with shield, Heat resistance is more than 80°C.

Maximum cable length / CN1 cable for power supply terminal 2 m

| | CN2 cable for control terminal | 2 m |
|---|-------------------------------------|-----|
| 1 | CN3 cable for motor output terminal | 5 m |

Shield is attached with an optional cable for the LC3F2 series.
 When grounding a shield, remove the sheath and use a metal U-crip or P-crip.

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E-MY

1 pc.

1 pc.

1 pc.

Applicable Cylinder Table

| Cylinder part no. | Applicable directional control driver |
|---|---------------------------------------|
| | LC3F212-5A3 |
| L Z 5 - A A 5 - A A A A A A A A A A A A A A | LC3F212-5A5 |

Dimensions



(2)

Protection

grounding terminal

related

components

Cross recessed bind screw M3 x 4

Tooth lock washer (A) Nominal 3

Spring washer Nominal 3

Related components for mounting the protection grounding terminal are provided together with the product.

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CN1 power supply terminal

/CN3 motor output terminal

Cooling should be considered, so the surface temperature of a heat sink should not be more than 50°C even though the temperature is within the operating range.



How to Mount

Mount the directional control driver vertically against the wall, using two mounting screw holes, so the front side (on which its adjustment trimmer and manual switch are located) is facing to an operator.

Applicable mounting screw: M3 (2 pcs.) [to be supplied by customer]



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Series LC3F2

Wiring Example





AWarning

Do not short circuit the motor output terminal (CN3). Excessive current will flow, and the directional control driver may become damaged.

How to wire



CN1 Power Supply Terminal

| Pin no. | Terminal | Function |
|---------|----------|-----------------------------|
| 1 | FG | Frame ground |
| 2 | DC (+) | Driver power supply (+24 V) |
| 3 | DC (-) | Driver power supply (0 V) |
| | | |

Housing: VHR-3N (J.S.T. Mfg Co., Ltd.) Contact: BVH-21T-P1.1 (J.S.T. Mfg Co., Ltd.)

CN3 Motor Output Terminal

| Pin no | Terminal | Function | |
|--------|----------|----------------------------|--|
| 1 | OUTA | Motor output A (Blue wire) | |
| 2 | OUTB | Motor output B (Red wire) | |
| | | | |

Contact: BVH-21T-P1.1 (J.S.T. Mfg Co., Ltd.)

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There is no emergency stop function or power supply switch in the directional control driver. Please be sure to provide an emergency stop and power supply insulation (insulator) device as a total machine equipment, referencing the above wiring examples. Also, please be sure to turn off the power supply for the whole equipment prior to wiring the directional control driver.



CN2 Control Terminal

| Pin no. | Terminal | Function | |
|---------|----------|--------------------------------------|------------------------------------|
| 1 | COM | Common terminal | |
| 2 | ON | Output ON command input | ON: Motor output |
| | | | OFF: No motor output |
| 3 | SET | Adjusted thrust command input | ON: Adjusted thrust |
| | | | OFF: 100% thrust (Max. thrust) |
| 4 | A-PHASE | Traveling direction command input | ON: A-PHASE (Retracted side) Note) |
| | | | OFF: B-PHASE (Extended side) Note) |

Housing: VHR-4N (J.S.T. Mfg Co., Ltd.)

Note) For the travelling direction (retracted, extended side), refer to the dimensions in page 980, 982, 986 and 987.



Contact: BVH-21T-P1.1 (J.S.T. Mfg Co., Ltd.)

Description of Each Part and its Function



Note) For the travelling direction (retracted, extended side), refer to the dimensions in page 980, 982, 986 and 987.



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Directional Control Driver Specific Product Precautions

Be sure to read before handling.

Caution on Design and Operation

1. If an electric cylinder with DC motor should be rotated by the larger external force than the generated thrust, the reverse inrush voltage generated may cause adverse effects on the electric cylinders directional control driver and result in malfunction or damage to the product.

Example)

• Do not push or pull a cylinder rod, applying a larger load or external force than the generated thrust. (Please use caution if the generated thrust should be switched over between a high thrust and a low thrust.)



• Do not use this product by stopping it with a load or external force. (control operation)



• Command an operation in the reverse direction only after a cylinder rod stopped completely.



• Do not operate a cylinder rod with an external force when the electric cylinder directional control driver is turned off or output is in the off state. (If a cylinder rod needs to be moved manually for the purpose of adjustment, etc., be sure to remove the CN3 motor output terminal beforehand.)

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