

Electric linear actuators HL-series

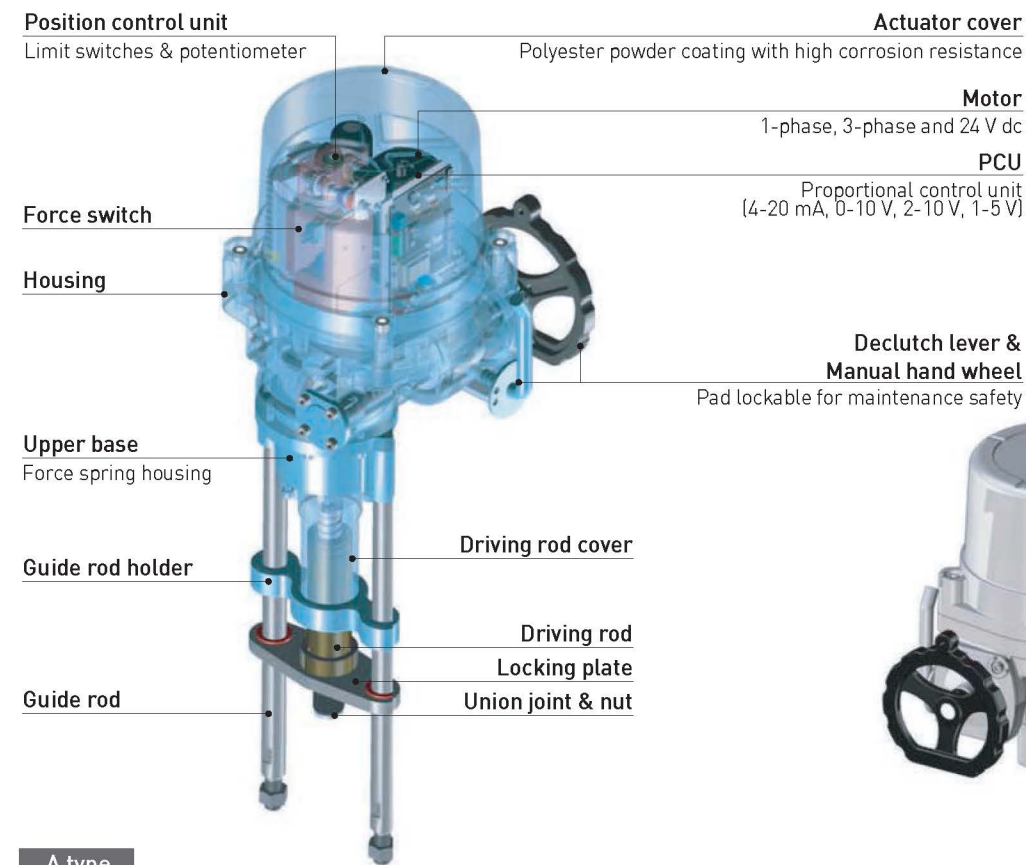


Features

- Compact and light weight
- High corrosion resistance
- Self locking with minimum backlash
- Rugged design construction with o-ring system for water proof and flame proof
- Manual override handwheel
- Force switches/Limit switches
- Space heater with thermostat to prevent overheat
- Various output force from 5 kN to 25 kN
- Wide range of voltages available



Design Construction



A type



Performance

| Model | Max. output force kN | Stem speed (mm/sec) 50/60 Hz | Max. stroke mm | Duty rate IEC34-1 S4(%) | Rated current (A), (50/60 Hz) | | | | | No. of handle turn n | Weight kg | |
|---------|-------------------------|------------------------------------|-------------------|-------------------------------|-------------------------------|-----------------------|-----------|-----------------------|-----------|-------------------------|--------------|----|
| | | | | | dc 24 V | ac, 1-phase, 50/60 Hz | | ac, 3-phase, 50/60 Hz | | | | |
| HL-05KN | 5 | 0.44/0.53 | 60 | 50 | 2.1 | 1.0 / 1.0 | 0.6 / 0.5 | 0.3 / 0.3 | 0.6 / 0.4 | NA | 227 | 11 |
| HL-07KN | 7 | 0.44/0.53 | 60 | 50 | 2.7 | 1.2 / 1.1 | 0.6 / 0.6 | 0.3 / 0.4 | 0.6 / 0.5 | NA | 227 | 11 |
| HL-10KN | 10 | 0.69/0.82 | 70 | 50 | 3.9 | 1.9 / 1.8 | 0.9 / 0.9 | 0.6 / 0.4 | 0.6 / 0.4 | 0.6 / 0.3 | 184 | 21 |
| HL-12KN | 12 | 0.69/0.82 | 70 | 50 | 4.6 | 2.1 / 2.0 | 1.0 / 1.0 | 0.7 / 0.5 | 0.6 / 0.4 | 0.6 / 0.4 | 184 | 21 |
| HL-15KN | 15 | 0.69/0.82 | 80 | 50 | 5.6 | 2.2 / 2.1 | 1.1 / 1.1 | 0.7 / 0.5 | 0.7 / 0.4 | 0.6 / 0.4 | 210 | 21 |
| HL-18KN | 18 | 0.69/0.83 | 100 | 50 | 5.8 | 1.8 / 2.0 | 0.9 / 1.1 | 0.6 / 0.5 | 0.4 / 0.3 | 0.4 / 0.3 | 260 | 33 |
| HL-20KN | 20 | 0.69/0.83 | 100 | 50 | 6.4 | 2.1 / 2.4 | 1.0 / 1.2 | 0.7 / 0.6 | 0.7 / 0.5 | 0.7 / 0.5 | 260 | 33 |
| HL-25KN | 25 | 0.69/0.83 | 100 | 50 | 7.8 | 3.2 / 4.0 | 1.9 / 2.1 | 0.9 / 0.8 | 0.8 / 0.6 | 0.8 / 0.6 | 260 | 33 |

Standard Specification

| | |
|----------------------------------|--|
| Enclosure | Weatherproof enclosure IP67 |
| Power supply | 24 V dc 110/220 V ac 1 ph, 50/60 Hz 380/440/460 V ac 3 ph, 50/60 Hz, ±10% |
| Duty cycle (on-off) | S2 30 min (room temp., average load of 50% of max. force) |
| Duty cycle (modulating) | S4 40-70%, 800-1200 starts/hour (room temp., average load of 50% of max. force) |
| Motor | Induction motor (reversible motor) |
| Limit switches | Open/close, SPDT, 250 V ac 16 A rating |
| Additional limit switches | Open/close, SPDT, 250 V ac 16 A rating (except HL-05KN & HL-07KN) |
| Force switches | Open/close, SPDT, 250 V ac 16 A rating |
| Stall protection/operating temp. | Built-in thermal protection, open at 150±5 °C / close at 97±15 °C |
| Manual override | Declutching mechanism |
| Self locking | Provided by double worm gear |
| Space heater | HL-05KN, 07KN: 5 W (12/24 V dc, 110/220 V ac), HL-10KN to 25KN: 10 W (12/24 V dc, 110/220 V ac), anti-condensation |
| Cable entries | Standard: 2 x PF3/4", Flame proof: 2 x NPT3/4" or 2 x M25 |
| Lubrication | Standard: grease moly (EP type), option: Tribolube-18 (for low temp.) |
| Terminal block | Spring loaded lever push type |
| Materials | Steel, aluminium alloy, aluminium bronze |
| Ambient temperature | Standard: -20 to +70 °C, Option: -20 to +60 °C (flameproof) |
| Ambient humidity | 90% Max. RH (non-condensing) |
| External coating | Anodizing treatment and polyester powder coating |

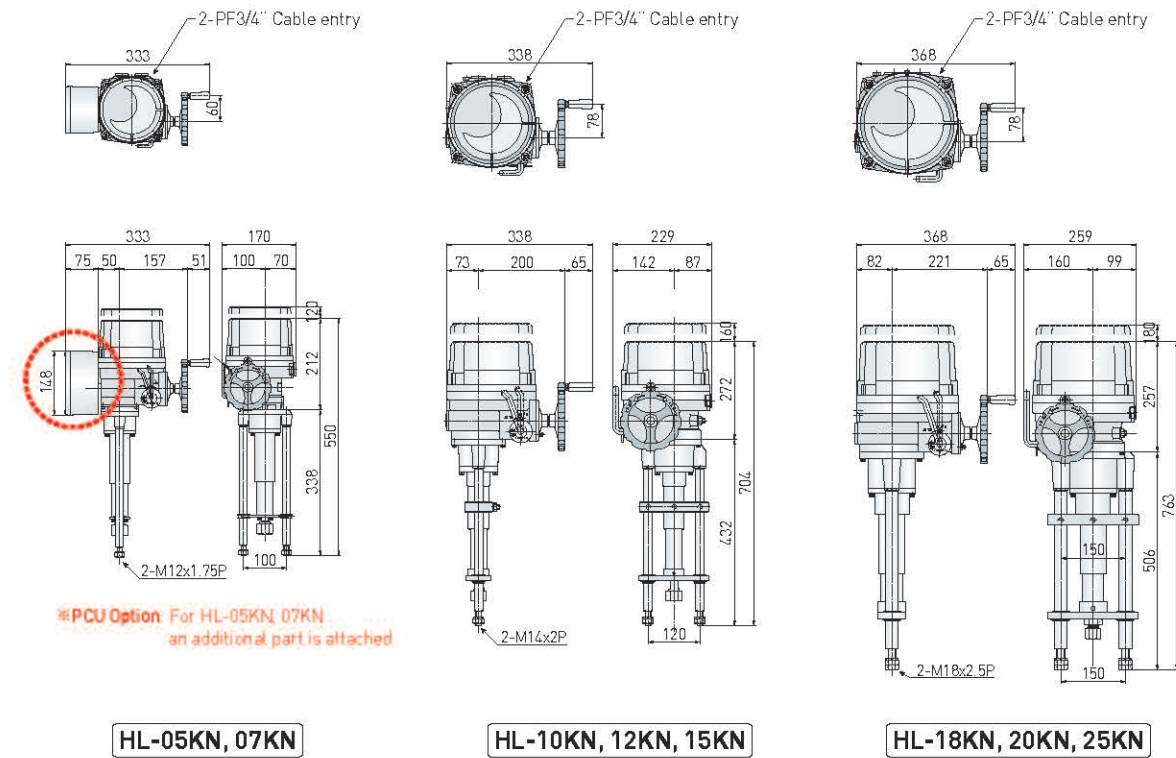
Optional Specification

| | |
|-------|--|
| EXD | Flameproof enclosure (Ex d IIB T4) |
| WTA | Watertight enclosure actuator (IP68 10 m 72 h) |
| PIU | Potentiometer unit (0-1 kΩ) |
| CPT | Current position transmitter (output: 4-20 mA dc) |
| PCU | Proportional control unit (input/output: 0-10 V dc or 4-20 mA dc) |
| IMS | Integral magnetic starter (control power: 110/220 V ac 1 ph, 50/60 Hz, ±10%) |
| DCM | DC motor (24 V dc) |
| ADCM | Multi ac-dc 24 V (integral) |
| LCU-B | Local/remote control unit |
| LCU-C | Integral control unit (LCU+IMS+auto phase discriminator) |
| RBP | Rechargeable battery backup for ESD (Emergency Shut Down) |
| MSB | Mounting support base & driving rod |

※ Consult with the supplier for more details.

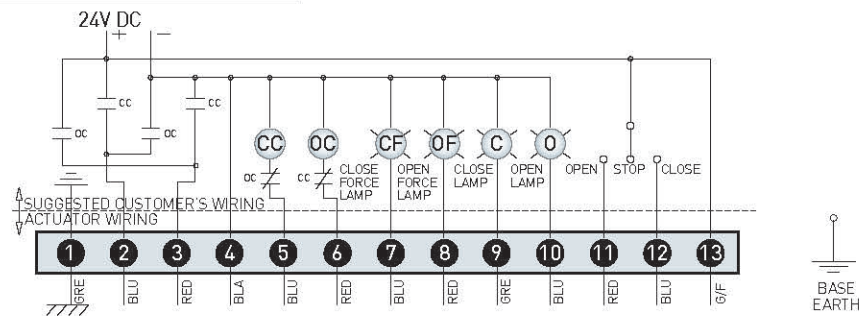
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Dimensional Drawing (Standard Type)

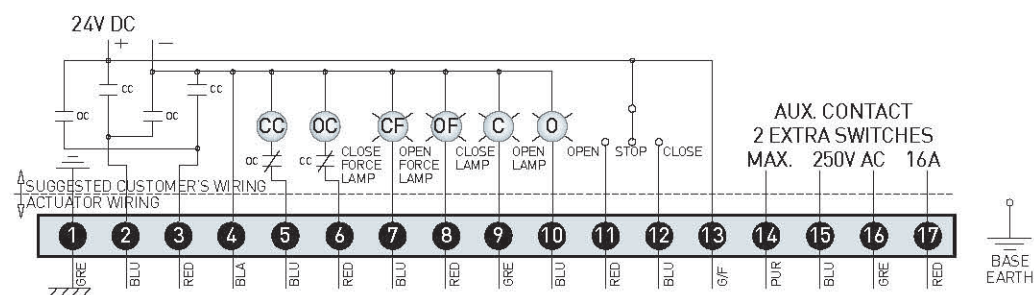


Wiring Diagram (24 V dc)

ON-OFF CONTROL for 24 V dc power supply
(HL-05KN, 07KN)

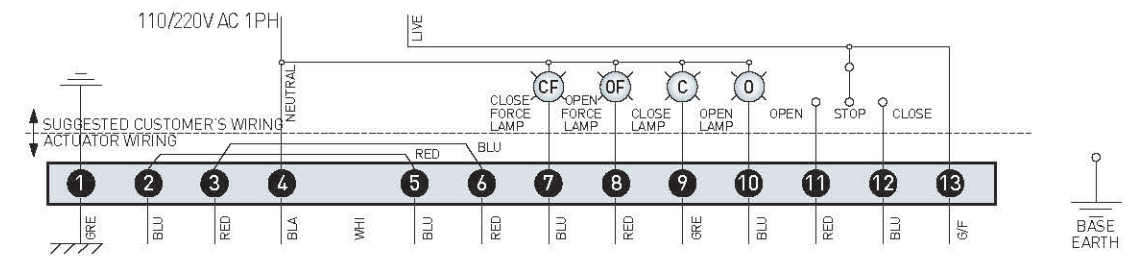


(HL-10KN, 12KN, 15KN, 18KN, 20KN, 25KN)

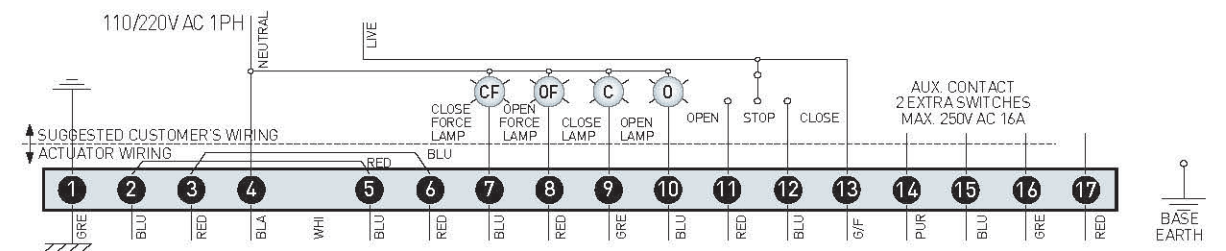


Wiring Diagram (1-Phase, On/Off)

ON-OFF CONTROL for 1-phase power supply
(HL-05KN, 07KN)

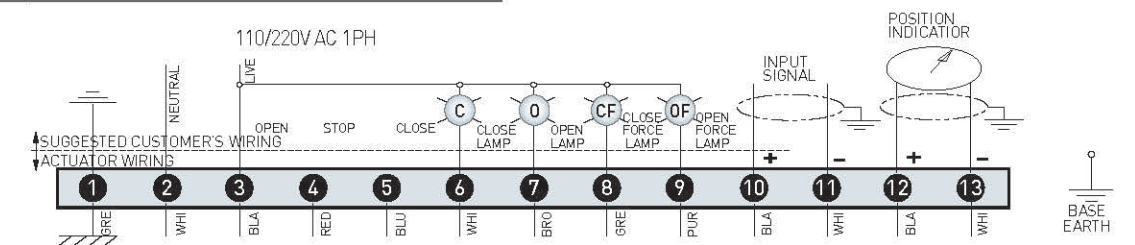


(HL-10KN, 12KN, 15KN, 18KN, 20KN, 25KN)

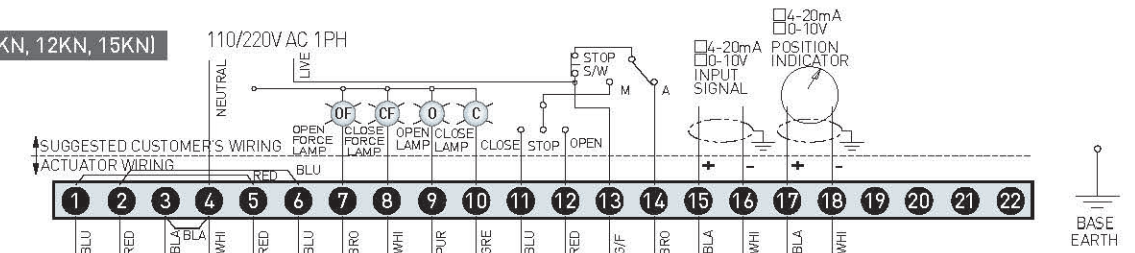


Wiring Diagram (1-Phase, PCU)

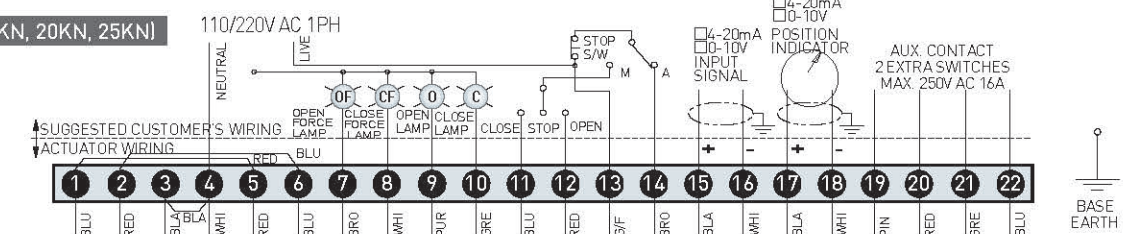
PROPORTIONAL CONTROL for 1-phase power supply
(HL-05KN, 07KN)



(HL-10KN, 12KN, 15KN)

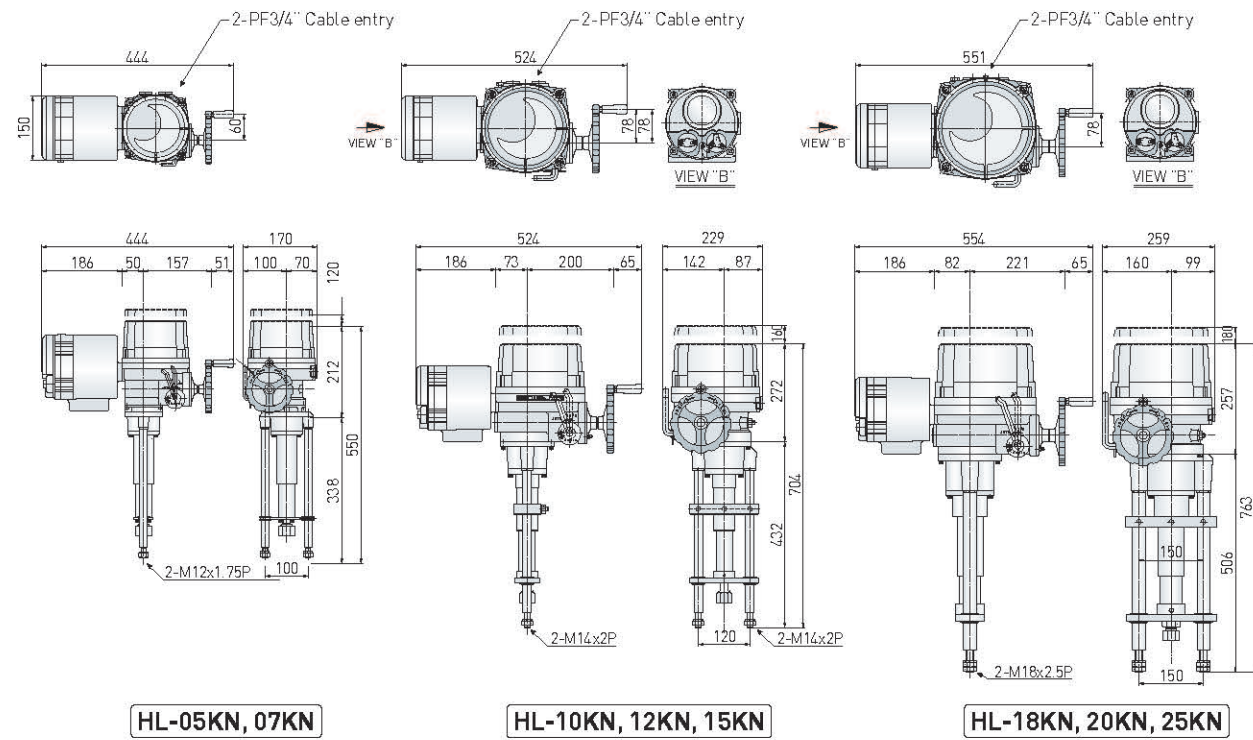


(HL-18KN, 20KN, 25KN)



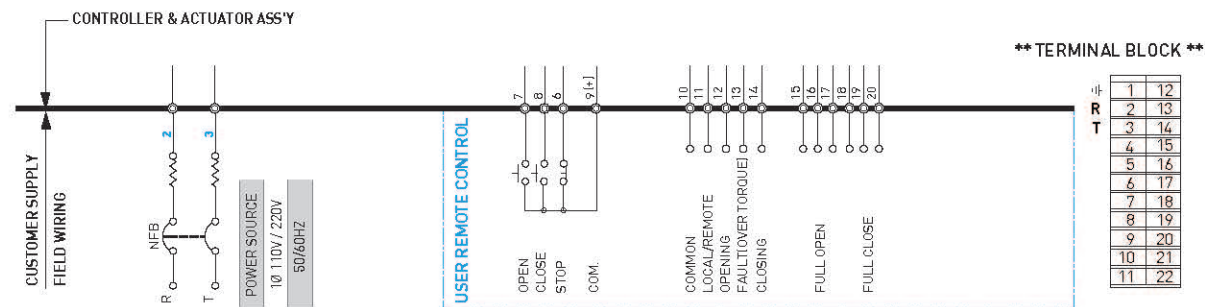
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Dimensional Drawing (LCU-B Type)

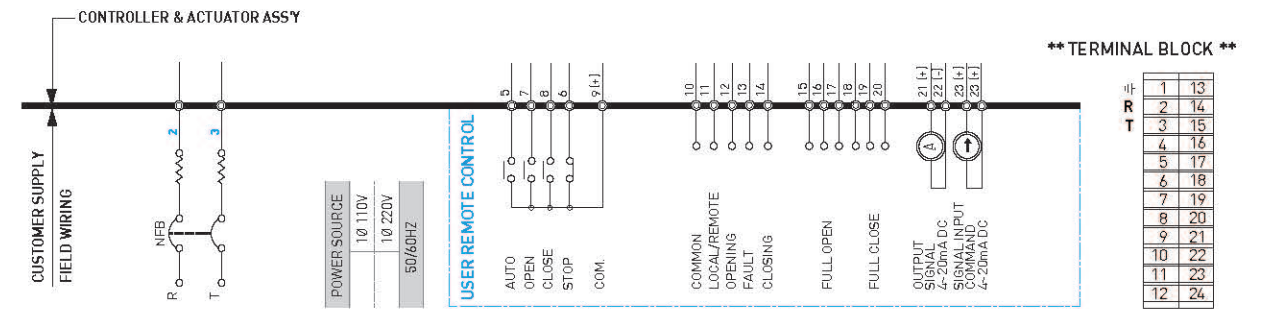


Wiring Diagram (LCU-B Type)

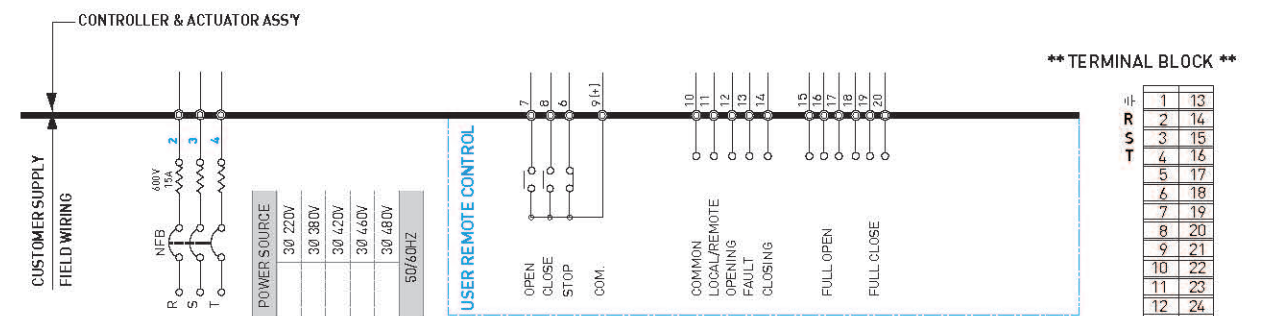
ON-OFF CONTROL with LCU-B1 for 1-phase power supply (HL-05KN ~ 25KN)



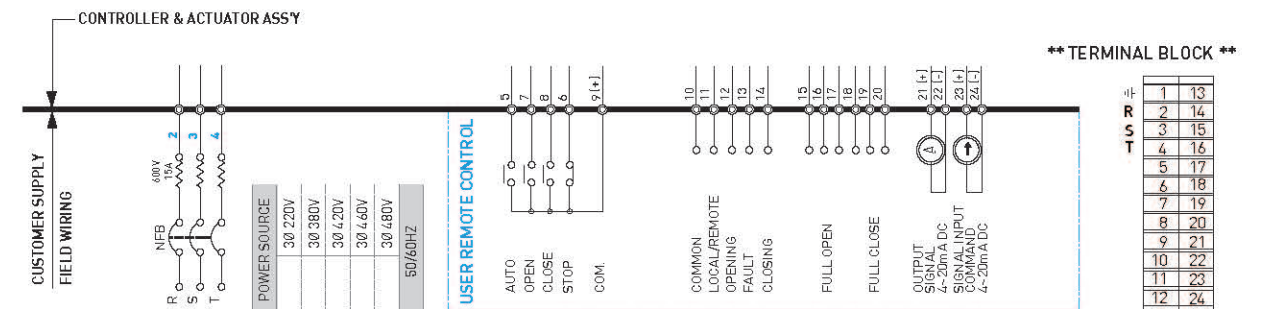
PROPORTIONAL CONTROL with LCU-B1 for 1-phase power supply (HL-10KN, 12KN, 15KN, 18KN, 20KN, 25KN)



ON-OFF CONTROL with LCU-B3 for 3-phase power supply (HL-05KN ~ 25KN)

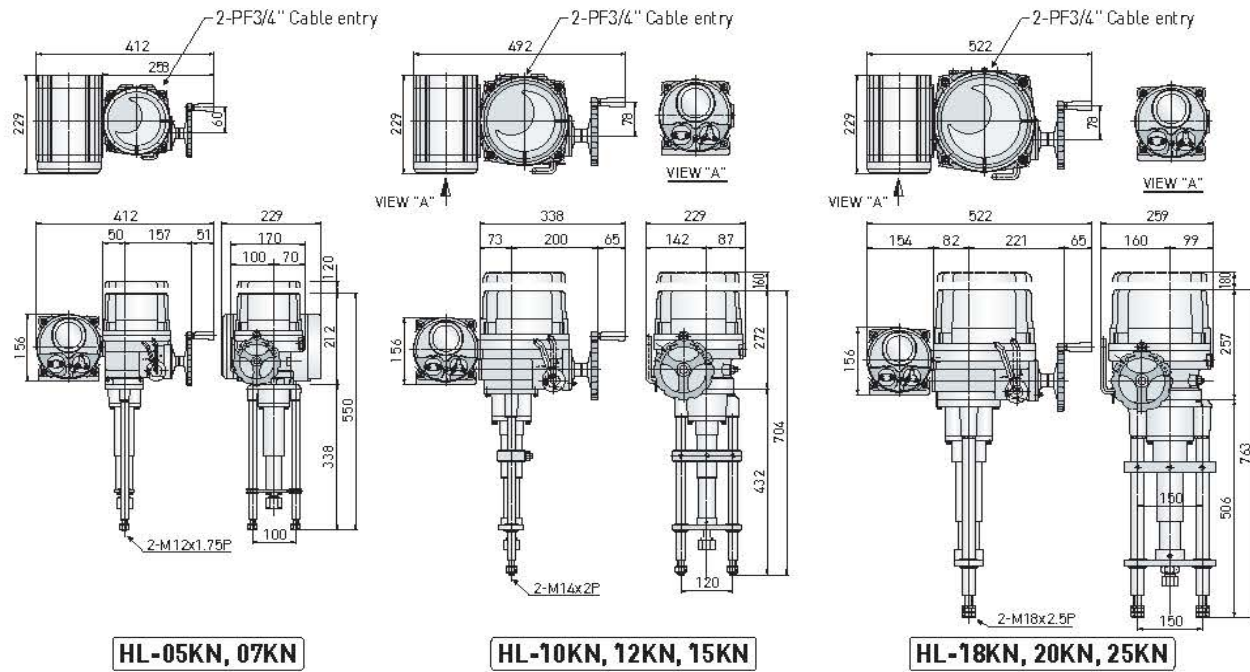


PROPORTIONAL CONTROL with LCU-B3 for 3-phase power supply (HL-10KN, 12KN, 15KN, 18KN, 20KN, 25KN)

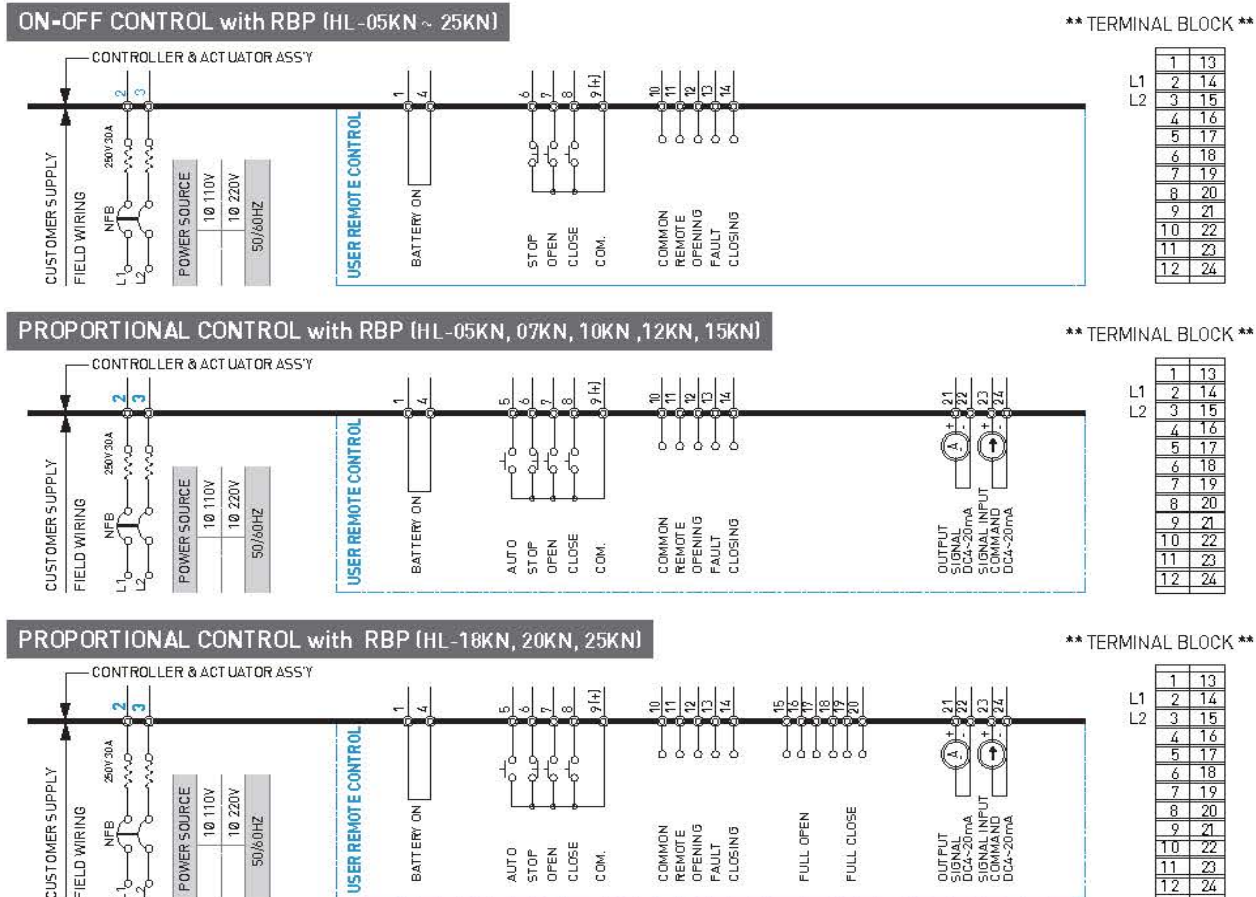


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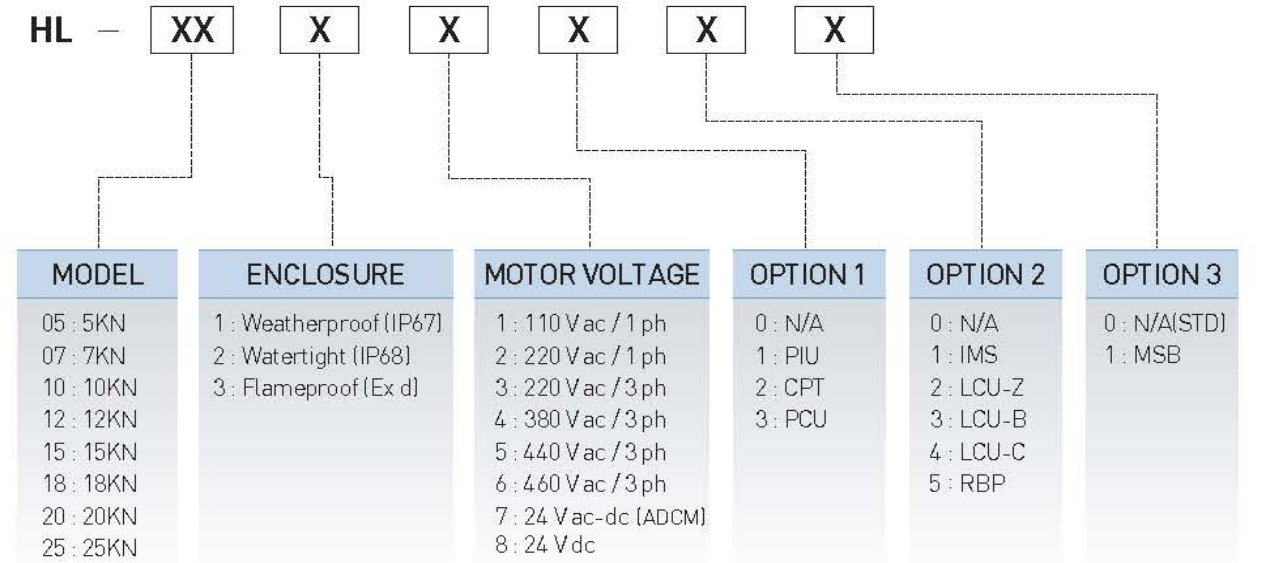
Dimensional Drawing (RBP Type)



Wiring Diagram (RBP Type)



HL-series Ordering Code



Remarks

※ Consult with the supplier for more details.

