

ECY-810 pressure controller

User instructions | Complete English translation

1. Product overview

This intelligent pressure controller combines pressure measurement, display and control. It offers straightforward operation, vibration resistance, accurate control and a long service life. It can stop equipment at low pressure and start it at high pressure, or stop at high pressure and start at low pressure. The control settings can be selected across the configured measuring range.

Functions include reverse control, delayed action and zero-error correction. Applications include building water systems, air-compressor pressure control and automation equipment.

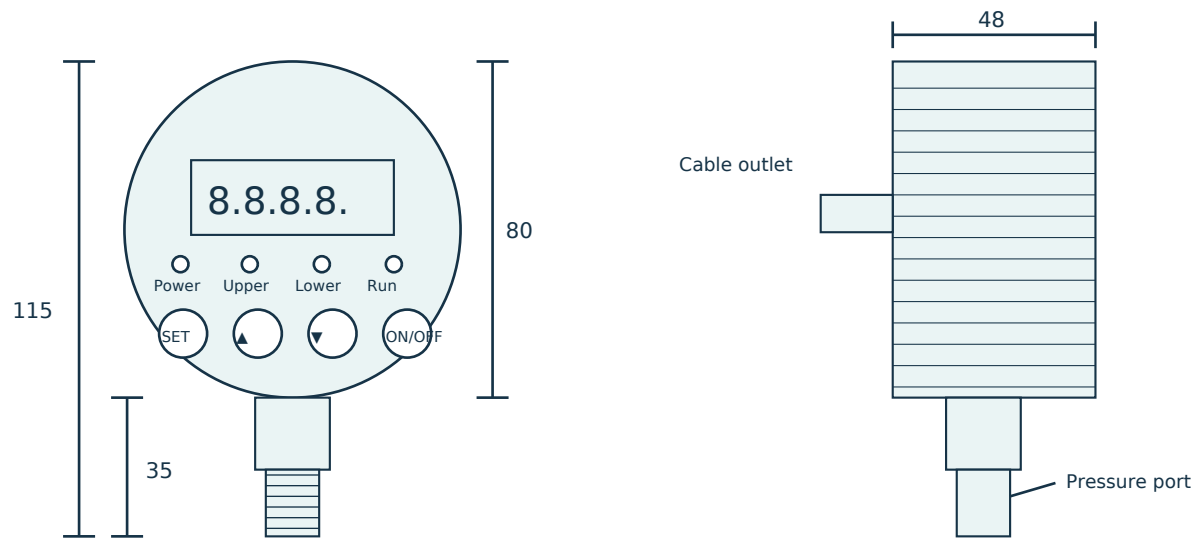
2. System parameters

Parameter	Specification
Selectable spans	0-0.1, 0-0.6, 0-1.6, 0-2.5, 0-10, 0-25, 0-40, 0-60 and 0-160MPa; the original uses ellipses to indicate intermediate choices
Overload	150%
Accuracy class	0.5%
Supply options	24VDC, 220VAC or 380VAC; follow the product marking
Alarm setpoint	Adjustable anywhere within the full measuring range
Output	Relay switching signal
Load capacity	380V: 3A; 220V: 5A; 24V: 5A
Sampling rate	5 readings/s
Operating temperature	-20°C to 80°C
Measured medium	Media compatible with 316L stainless steel
Wiring protection	Reverse-polarity and short-circuit protection
Process connections	M20×1.5, G1/2 or G1/4
Cable colours	Supply: red and blue; switching output: black and white

The supply options include 380VAC. Select a contactor coil and control circuit matching the instrument supply.

Dimensions and switching logic

3. Reference outline

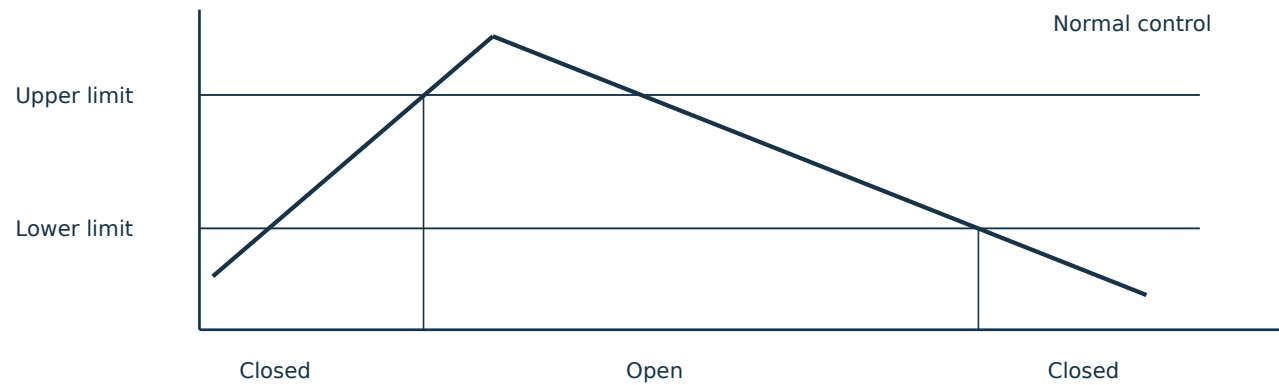


Dimensions in mm. Body diameter: 80; overall height: 115; process-connection projection: 35; body depth: 48. Front indicators: power, upper limit, lower limit and run. Keys: SET, ▲, ▼ and ON/OFF.

4. Cable and relay assignments

Lead / contact	Function
Red	Controller supply; V+ on the DC internal diagram
Blue	Controller supply return; V– on the DC internal diagram
Black	Relay common, COM
White	Relay normally closed contact, NC
Internal NO	Shown on the relay symbol, but no external NO lead is provided in the cable definition

5. Normal and reverse operation

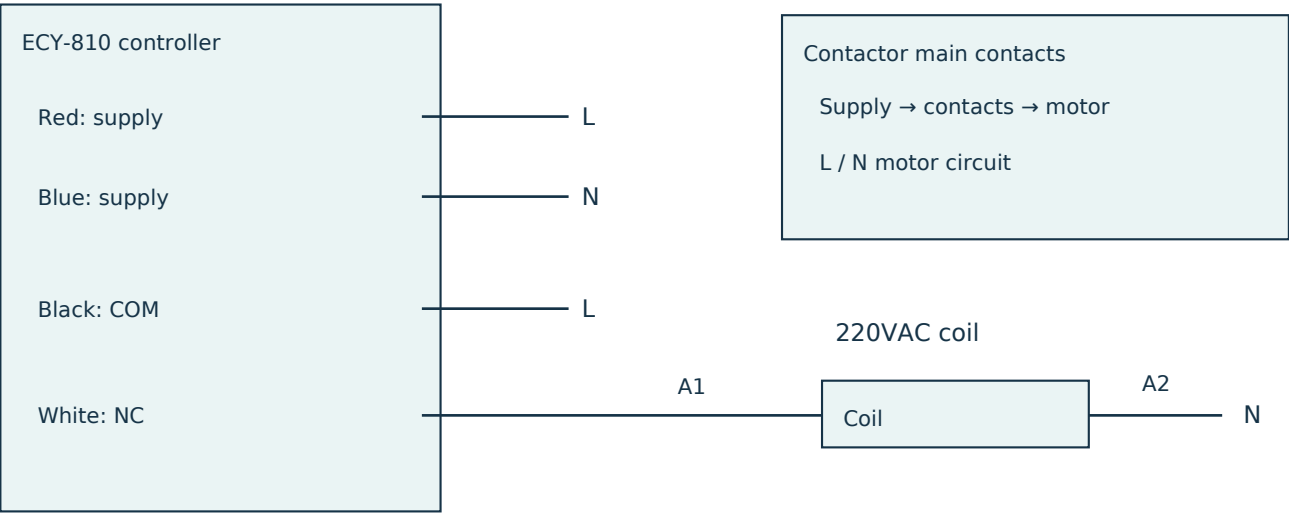


Normal mode: when pressure rises to the upper setting, the black-white circuit opens. When pressure falls to the lower setting, it closes. Between the two settings, it retains its previous state. Enable reverse control through the t000/t001 function to start at high pressure and stop at low pressure.

External contactor wiring

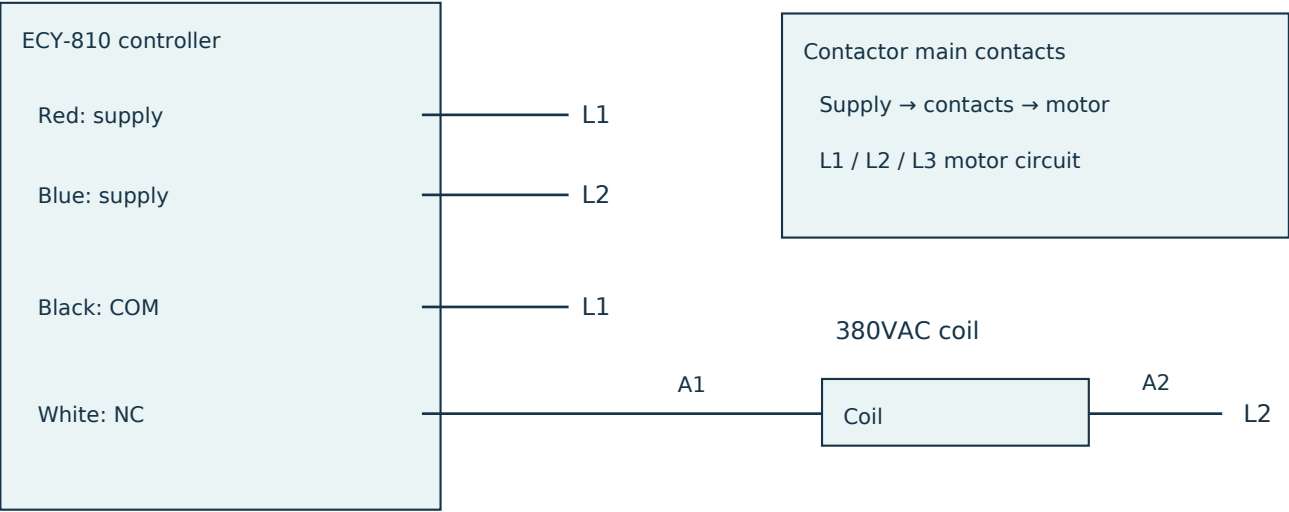
The source specifies the following contactor arrangements when the controlled load exceeds 700W. Match the controller supply version and contactor coil voltage to the circuit.

6. 220VAC arrangement



Functional wiring; select the matching controller and coil voltage.

7. 380VAC arrangement



Functional wiring; select the matching controller and coil voltage.

The 380VAC arrangement uses line-to-line voltage for both the controller and coil. L1, L2 and L3 are phase conductors; no neutral is shown in this three-phase arrangement. The diagrams above identify conductor functions using the source cable-colour table. Main motor current passes through the contactor, not through the controller relay.

The black and white leads form the control contact. In the 220VAC circuit, connect the relay common to L, white to coil A1 and A2 to N. In the 380VAC circuit, connect common to one phase, white to A1 and A2 to another phase. The source uses different phase pairs for the controller and coil; either pair provides the stated line-to-line voltage.

Installation and basic settings

8. Mechanical installation and wiring

Tighten the instrument using a wrench on the hexagonal fitting. Do not tighten by turning the housing. Wire the circuit correctly and check every connection before applying power; incorrect wiring can burn out the product.

9. Zero correction

After power is applied, leave the pipeline unpressurized. Turn run mode off with ON/OFF, then hold ▼ for 5 seconds to clear the zero offset.

10. Pressure-unit selection

With run mode off, briefly press ▲ to cycle through MPa, PSI and kg/cm².

11. Lower and upper limits

1. Turn run mode off with ON/OFF. Briefly press SET: the lower limit is displayed and its indicator lights.
2. Adjust the value with ▲ or ▼. Hold a key for faster changes. Briefly press SET to save and move to the upper limit; its indicator lights.
3. Adjust the upper limit with ▲ or ▼. Briefly press SET to save and exit automatically. If the lower value cannot be increased to the required pressure, set the upper limit first.

12. Start operation

After setting the parameters, briefly press ON/OFF to start run mode. Run mode must be off before changing the basic settings.

13. Enter the system-function menu

Press ON/OFF and wait for the run indicator to light. Hold SET for 3 seconds to enter the system settings. Briefly press SET to move through the functions. After completing all function settings, press ON/OFF twice to exit.

A displayed value of 000 indicates that the corresponding function is disabled. System settings require care: incorrect values can cause abnormal operation or product damage. Have qualified personnel set the parameters and contact the dealer or manufacturer if any setting is unclear.

System-function settings

Mode	Function and purpose	Setting method
h000 / h001 Control delay	When pressure reaches a switching point, h001 delays the action by 1 second. The delay is adjustable and helps prevent frequent motor starts caused by unstable line pressure.	Press ▲ to change h000 to h001. The display then shows 001, meaning 1 second. Use ▲/▼ to change the following value in seconds; it saves automatically.
P001 / P000 Parameter protection	Protects the upper/lower limits and other engineer-set parameters from alteration. P001 enables the function.	Use ▲ to enable or disable.
t001 / t000 Reverse control	t001 enables reverse operation: the contact is open below the lower limit and closed above the upper limit.	Use ▲ to enable or disable.
S001 / S000 Automatic pressure check	After the relay closes, if no pressure change is detected for 3 minutes, the controller opens the relay and displays E--F. This helps prevent dry running when the source is empty, supply is interrupted or a leak prevents pressure reaching the upper limit.	Use ▲ to enable or disable.
LuAL Water-shortage threshold	Pressure below this setting is treated as an empty pipe. The controller stops the motor and displays E--F. The purpose is the same dry-run protection described above.	Use ▲/▼ to change the pressure value.
L001 / L000 Detection time	With water-shortage protection active, if pressure fails to reach the protection threshold within the set detection time, the relay opens and E--F is displayed.	Press ▲ to change L000 to L001. The display shows 001, meaning 1 second. Use ▲/▼ to change the time in seconds; it saves automatically.

E--F identifies the 3-minute automatic-pressure-check function in the settings table. E--I appears in the operating-status table for automatic pressure checking; use each code in its stated context.

Troubleshooting and precautions

14. Common faults

Symptom	Cause	Action
Motor does not act at the set pressure	Incorrect controller wiring or failed contactor	Check the controller wiring and the AC contactor.
Motor starts frequently	Upper and lower limits are too close	Change the limits, enable the action delay, or add a pressure buffer tube.
Cannot change upper/lower limits	Parameter protection is enabled	Enter the settings and disable parameter protection.
E--F	Water-shortage protection is active	Press ON/OFF to reset, or select an appropriate water-shortage threshold.
E--E	Sensor or controller circuit is damaged	Replace/dispose of the unit or return it for repair.
E--I	Automatic pressure checking is enabled	Press any key to return to run mode; the function can be disabled.
E--r	Pressure exceeds the maximum range, or the sensor is damaged	Reduce the pressure or use a controller with a suitable higher range; investigate the sensor if the fault remains.

15. Precautions

1. On receipt, check the packaging and instrument for damage and verify that the model and specifications match the order.
2. Before applying power, confirm the supply voltage and wiring. Damage to the controller or load caused by incorrect wiring is excluded from the source warranty.
3. Do not install the instrument while energized.
4. The built-in pressure sensor is a precision component. Do not dismantle it or touch the diaphragm with a hard object.
5. Use a wrench on the hexagonal fitting. Do not force installation or removal; this can damage the process thread or housing.
6. Installation stress can shift the zero point. Zero the instrument after installation before use.

Source document identification

ELECAll trademark holder and authorizing company: Yueqing ELECAll Electric Co., Ltd. Manufacturer: Yueqing Liangzi Electric Co., Ltd. Address: Building G, Yueshang Entrepreneurship Park, Yueqing Economic Development Zone, Zhejiang, China. Telephone: 0577-62792850. Website: www.elecall.cn. The source includes recycling and crossed-out wheeled-bin symbols.

This translation retains all specifications, controls, dimensions, wiring functions, menu entries and fault codes from the Chinese ECY-810 foldout. Functional English wiring drawings replace mixed colour/label illustrations; the explicit red/blue supply and black/white output assignments govern.