PLYMOVENT®
clean air at work

Automatic Damper Control

ICE-LC



EN **Installation and user manual**

https://www.plymovent.com/en/service/manuals

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EN | ORIGINAL INSTRUCTION

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To improve comprehension for people whose first language is not English, we have written parts of this manual in Simplified Technical English (STE). STE is a controlled language originally developed for aerospace industry maintenance manuals. It offers a carefully limited and standardized subset of English, along with specific writing rules.

PREFACE

Using this manual

This manual is intended to be used as a work reference for a professional/licensed electrician, well-trained and authorised users to safely install, use, maintain and repair the product mentioned on the cover of this document.

Pictograms and symbols

The following pictograms and symbols are used in this manual:

	**TIP** Suggestions and recommendations to simplify carrying out tasks and actions.
	**ATTENTION** A remark with additional information for the user. A remark brings possible problems to the user's attention.
	**CAUTION!** Procedures, if not carried out with the necessary caution, could damage the product, the workshop or the environment.
	**WARNING!** Procedures which, if not carried out with the necessary caution, may damage the product or cause serious personal injury.
	**WARNING!** Denotes risk of electric shock.
	**WARNING!** Important warning to prevent fire.

Text indicators

Listings indicated by "-" (hyphen) concern enumerations.
Listings indicated by "•" (bullet point) describe steps to perform.

Service and technical support

For information about specific adjustments, maintenance or repair jobs which are not dealt with in this manual, please contact the supplier of the product.

Make sure you have the following specifications at hand:
- product name
- serial number

You can find these data on the identification plate.

1 INTRODUCTION

1.1 Identification of the product

The identification plate is attached to the side of the ICE-LC control box. It contains, among other things, the following data:
- product name
- serial number
- supply voltage and frequency

1.2 General description

The ICE-LC is a fully automatic damper control that controls the airflow in your extraction system according to demand.

1.3 Options and accessories

To activate the control box ICE-LC, there is a range of input sources available:

S-100	Switch box for manual control of a fan or damper
SK-300	
MC-005 *)	Inductive sensor
LS-12	Light sensor

*) When you use the ICE-LC in combination with gas welding, torch cutting and/or TIG welding (with currents below 30 A), we recommend the use of the LS-12 (light sensor) instead of or parallel to the ICE-LC (inductive sensor).

1.4 Technical specifications

Type	ICE-LC
Housing	IP 66 (EN 60529) / UL94-V2
Temperature storage/ transport	-10 to 65°C / 15 to 145°F
Supply voltage	110-120 VAC / 208-240 VAC / 380-420 VAC
Primary fuse	500 mA (slow blow)
Transformer fuse	built-in thermal
Cable connections	screw terminals
Damper connection	24VAC (3 wires)
Adjustable overrun time	7 sec. – 6 min.
Weight	1,8 kg (4 lbs)

1.5 Dimensions

Housing: - length - width - depth	 175 mm (6⅞ in.) 175 mm (6⅞ in.) 100 mm (3⅞ in.)
Mounting holes (4)	Ø 6 mm (¼ in.) at 160 mm (6¼ in.) distance

1.6 Ambient and operating conditions

Operating temparature: - min. - nom. - max.	 5°C (41°F) 20°C (68°F) 40°C (104°F)
Max. relative humidity	80%

2 SAFETY

General

The ICE-LC is delivered as part of an extraction system of Plymovent. The safety instructions written in the related manuals apply to the ICE-LC as well.

Intended use[1]

The product has been designed as a damper control. Using the product for other purposes is considered contrary to its intended use. The manufacturer accepts no liability for any damages or injury resulting from such use. The product has been built in accordance with state-of-the-art standards and

1. "Intended use" as explained in EN-ISO 12100 is the use for which the technical product is suited as specified by the manufacturer, inclusive of his directions in the sales brochure. In case of doubt it is the use which can be deduced from the construction, the model and the function of the technical product which is considered normal use. Operating the product within the limits of its intended use also involves observing the instructions in the user manual.

recognized safety regulations. Only use this product when in technical perfect condition in accordance with its intended use and the instructions explained in the user manual.

Technical specifications

The specifications given in this manual must not be altered.

Modifications

Modification of (parts of) the product is not allowed, except the bottom plate, which is allowed for use as an entrance point for external cabling.

Installation

The installation of this product is exclusively reserved to authorised, well-trained and qualified engineers.

Service, maintenance and repairs

ATTENTION!
Maintenance must be performed by authorised, qualified and trained persons (skilled) using appropriate work practices.

WARNING
Electrocution hazard
Disconnect mains before servicing. Failure to do so could result in serious personal injury or death.

3 INSTALLATION

WARNING!
Do not attempt installation of this unit unless you are familiar with the necessary tools, equipment, utility connections and potential hazards. Installation must be performed only by a qualified service provider. Failure to do so could result in reduced performance of the unit, serious personal injury or death.

WARNING!
Fire hazard
Do not install the control box in areas with flammable gases.

ATTENTION
The ICE-LC control box is delivered without cables for external field wiring. All interconnect cables/wire size used shall comply to the NEC codes. The glands used for inserting the cable into the ICE-LC control box must be placed in the bottom of the housing. The cable must fit tightly in the gland to prevent any moisture entering the inside of the ICE-LC control box.

3.1 Unpacking

The package contains:
- ICE-LC control box

3.2 Mechanical installation

You must install the ICE-LC on a vibration free surface.

3.3 Electric connection

- Connect the ICE-LC in accordance with the separately supplied electrical diagram.

CAUTION!
Electric connection is to be executed in accordance with local requirements. Ensure compliance with the EMC regulatory arrangements.

WARNING!
Make sure the control box is suitable for connection to the local mains. Information about the connection voltage and frequency can be found on the identification plate.

WARNING!
The voltage of the LC is dangerous whenever the equipment is connected to the mains.
Incorrect installation of the unit may cause damage to the equipment, serious personal injury or death. Consequently, the instructions in this manual, as well as national and local rules and safety regulations, must be complied with.
You must disconnect the ICE-LC from the mains when you carry out repair or installation work. Make sure that mains supply is disconnected.

WARNING!
- The unit may not be installed in an explosive environment.
- Always check that main power is turned off prior to installation of the ICE-LC control box.
- Installation should be conducted by a qualified electrician.

Depending on what voltage you are using it is necessary to connect the power wires to different terminals inside the control box; 115V terminals are different from terminals used for 230V or 400V.

The electric connection depends on the local supply voltage.

- Install the electric power according to the instructions that follow:

115 VAC:	- connect neutral to terminal N - connect phase to L1 115VAC
230 VAC:	- connect neutral to terminal N - connect phase to terminal L1 230VAC
400 VAC:	- connect neutral to terminal N - connect phase to terminal L1 400VAC

The primary side of the transformer is secured by a 500 mA slow blow fuse, 5x20 mm. The transformer has also a built-in thermal fuse.

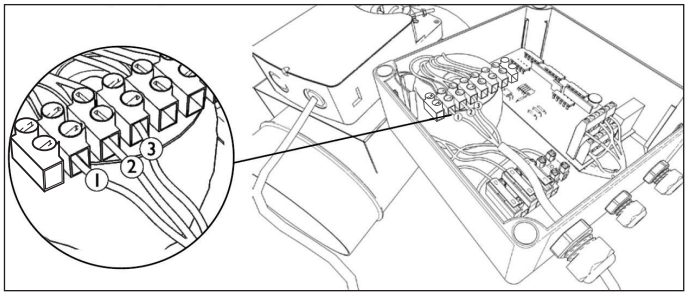


Fig. 3.1 Connection of motorised damper (MD-X)

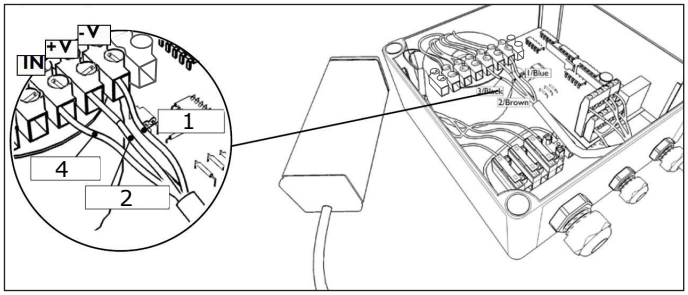


Fig. 3.2 Connection of inductive sensor (MCC-05)

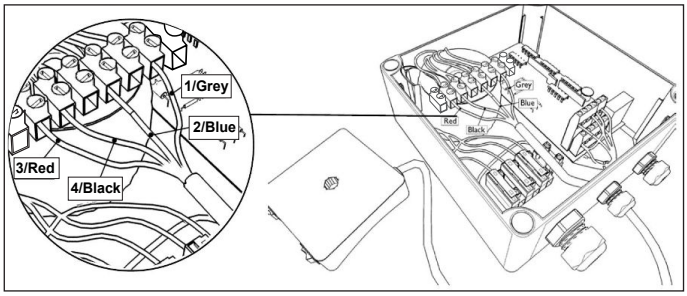


Fig. 3.3 Connection of switch box (S-100 / SK-300)

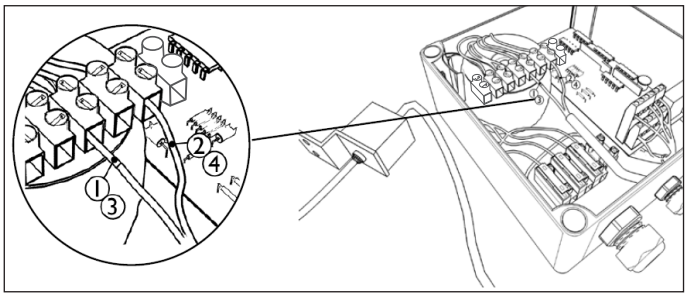


Fig. 3.4 Connection of micro switch (MSR-24/2)

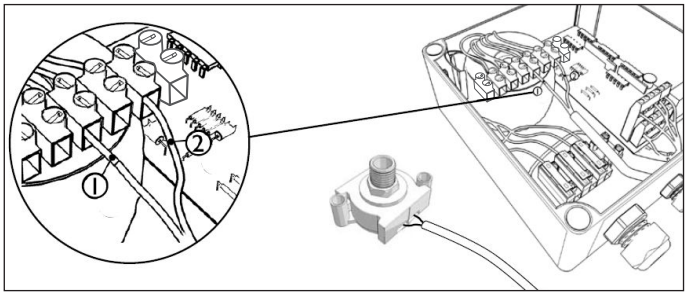


Fig. 3.5 Connection of pressure switch (PC-500)

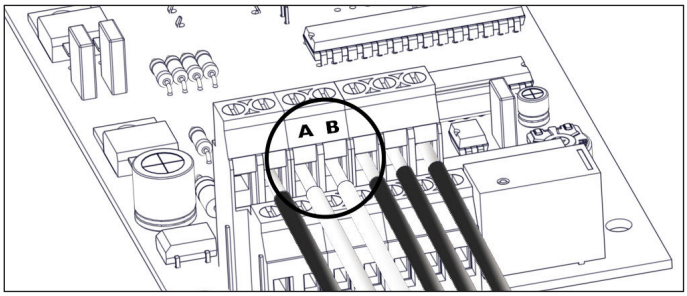


Fig. 3.6 Interconnection

Connections between the ICE-LC and other equipment in the system are necessary when you need them to interoperate.

4 USE

The overrun time is adjustable between seven (7) seconds and six (6) minutes. To adjust the overrun time of the ICE-LC box, you must turn the blue potentiometer wheel on the circuit card.

To increase the overrun time:
- Turn the wheel clockwise

To decrease the overrun time:
- Turn the wheel counterclockwise

Do not position the wheel in the outermost directions.

5 MAINTENANCE

The ICE-LC requires no specific maintenance.

6 TROUBLESHOOTING

If the ICE-LC does not function (correctly), contact your supplier.

7 SPARE PARTS

The following spare parts are available for the ICE-LC (refer to Fig. I on page 5).

Pos.	Article no.	Description
1	0000300038	PCB ICE-LC without buttons
2	0321400010	Servomotor SA1.12
3	0000300599	Fuse 5x20 mm (500 mA) UL-477 (3 pcs)

8 ELECTRICAL DIAGRAM

Refer to the separately supplied electrical diagram (also attached to the inside of the control box cover).

9 DISPOSAL

After life of the product, dispose it of in accordance with state or local regulations.

DECLARATIONS

CE & UKCA declaration of conformity for machinery

We, Plymovent Manufacturing B.V., Koraalstraat 9, 1812 RK Alkmaar, the Netherlands, herewith declare, on our own responsibility, that the product:
- ICE-LC

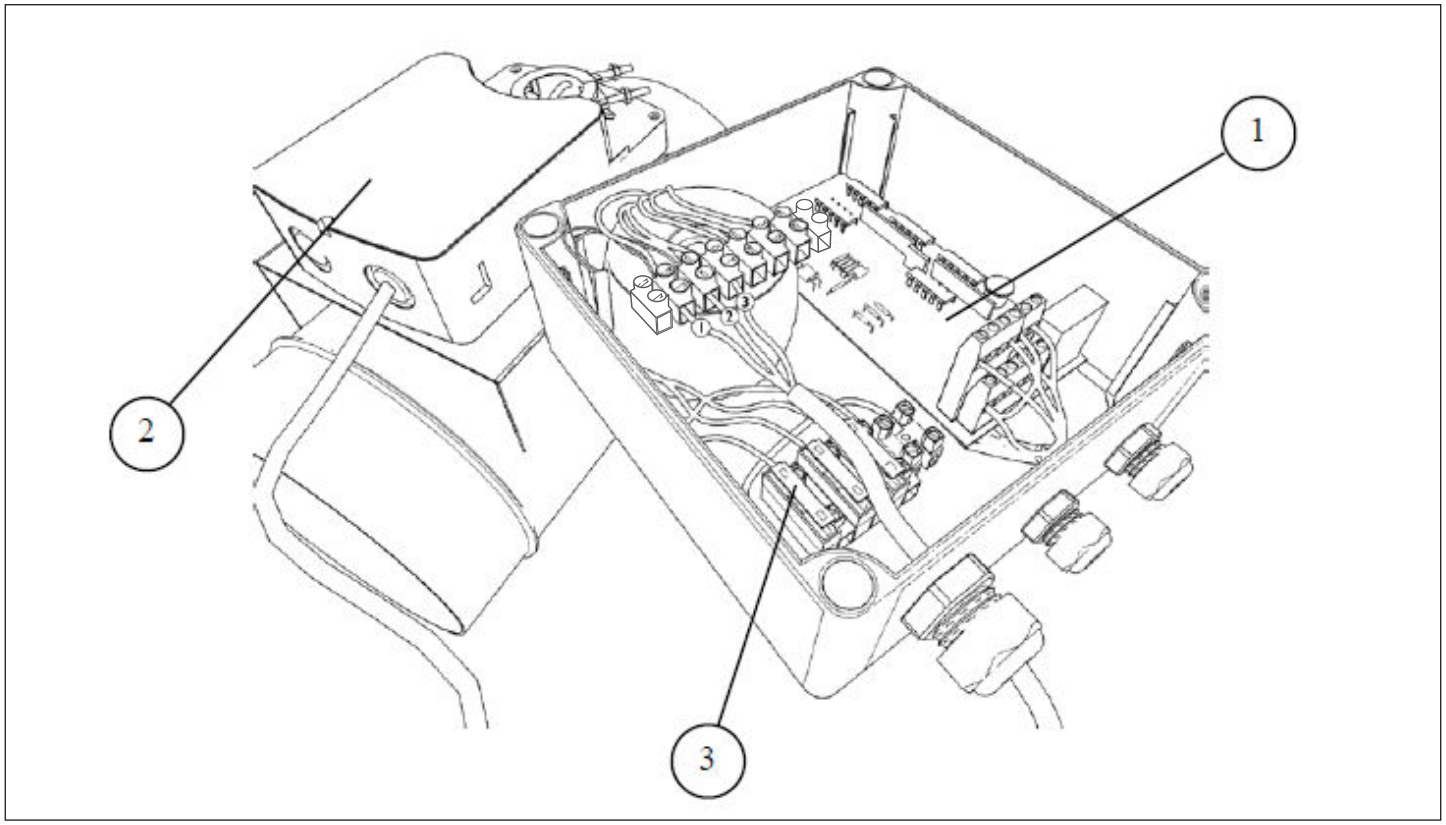
which this declaration refers to, is in accordance with the conditions of the following Directives:
- CE EMC 2014/30 EU
- CE LVD 2014/35 EU
- UKCA Electromagnetic Compatibility Regulations 2016
- UKCA The Electrical Equipment (Safety) Regulations 2016

and is in conformity with the following harmonized standard(s) and/or other such normative documents + amendments, if any:
- EN ISO 61000-2
- EN ISO 61000-6

Alkmaar, the Netherlands, 16 December 2022

M.S.J. Ligthart
Product Manager

Fig. I



PLYMOVENT®
clean air at work

0000305144/01APR2024/C ICE-LC