

## APV CU4 110V

MODULE

FORM NO.: H330639 REVISION: UK-0

READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS PRODUCT.





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**IT IS ESSENTIAL TO READ THIS INSTRUCTION MANUAL  
BEFORE USE OF THE CONTROL UNIT!**



## 1. Abbreviations and Definitions

AWG	American Wire Gauge
CE	Communauté Européenne
CU	Control Unit
DI	Digital Input
DO	Digital Output
EU	European Union
LED	Luminous Diode
PLC	Programmable Logic Control

## 2. Safety Instructions

### 2.1. Sentinels

*Meaning:*



**Danger !** Direct danger which can lead to severe bodily harm or to death!



**Caution !** Dangerous situation which can lead to bodily harm and/or material damage.



**Attention !** Risk as a result of electric current.



**Note !** Important technical information or recommendation.

These special safety instructions point directly to the respective handling instructions. They are accentuated by the corresponding symbol. Carefully read the instructions to which the sentinels refer. Continue to handle the control unit only after having read these instructions.

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## 2. Safety Instructions

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### 2.2. Conventional Use

The CU4 control unit with 110V module is only intended for use as described in chapter 3.1. Use beyond that described in chapter 3.1. is not according to the regulations and SPX FLOW shall not be responsible for any damage resulting from this non-observance. The operator bears the full risk.

Prerequisite for proper and safe operation of the control unit with 110V module are the appropriate transport and storage as well as the professional assembly. Conventional use also means the observance of operating, service and maintenance conditions.

### 2.3. General Regulations for Careful Handling

Being connected to power, the CU4 Direct Connect control unit with 110V module is subject to perilous operating voltage. Inappropriate installation of the control unit or of the module can cause damage to the device and severe personal injury or can even lead to fatal injury. Therefore, strictly observe the instructions given in this manual as well as the local and national safety regulations.



- The operator is committed to operating the control unit with 110V module in faultless condition, only.
- Observe the general technical rules while using and operating this unit.
- Observe the relevant accident prevention regulations, the national rules of the user country as well as your company-internal operating and safety regulations during operation and maintenance of the unit.
- Switch off the operating voltage of the 110V AC control unit before carrying out any work on the system. Make sure that the power supply is interrupted before opening the cover of the control unit.
- Take care that the user is protected against this operating voltage.
- Beside the operating voltage of 110V AC, the module has discrete in- and outputs. Before any repair, check that all voltages are cut off.
- Do not touch live parts. This is dangerous to life!



## 2. Safety Instructions

### 2.3. General Regulations for Careful Handling

Switch off the power supply before any work at the system!

- Note that piping or valves that are under pressure must not be removed!
- Take suitable measures to prevent unintentional operation or impermissible impairment.
- Following an interruption of the electrical or pneumatic supply, ensure a defined and controlled re-start of the process!
- If these instructions are not observed, we will not accept any liability. Warranties on units, devices and accessories will expire!

### 2.4. Welding instructions

It is generally recommended to avoid welding work in process installations in which control units are installed and connected. If welding is nonetheless required, earthing of the electrical devices in the welding area is a necessity.



### 2.5. Persons

- Installation and maintenance work may only be carried out by qualified personnel and by means of appropriate tools.
- Qualified personnel must get a special training with regard to possible risks and must know and observe the safety instructions indicated in the instruction manual.
- Work at the electrical installation may only be carried out by personnel specialised in electrics!



### 2.6. Warranty

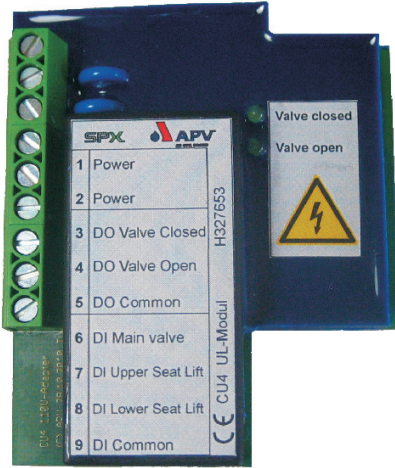
This document does not contain any warranty acceptance. We refer to our general terms of sale and delivery. Prerequisite for a guarantee is the correct use of the unit in compliance with the specified conditions of application.

#### Attention !

This warranty only applies to the Control Unit. No liability will be accepted for consequential damage of any kind that could arise from the failure or malfunction of the device.

## 3. General Terms

CU4 110V module



### 3.1. Purpose of use

The Control Unit with 110V module is an extension module for every CU4 of the type Direct Connect. This module allows to operate the CU4 with a control and operating voltage of 110V.

The CU41 as well as the CU43 control unit can be equipped and operated with this module. All functions are thereby transferred to the control voltage level of 110V.

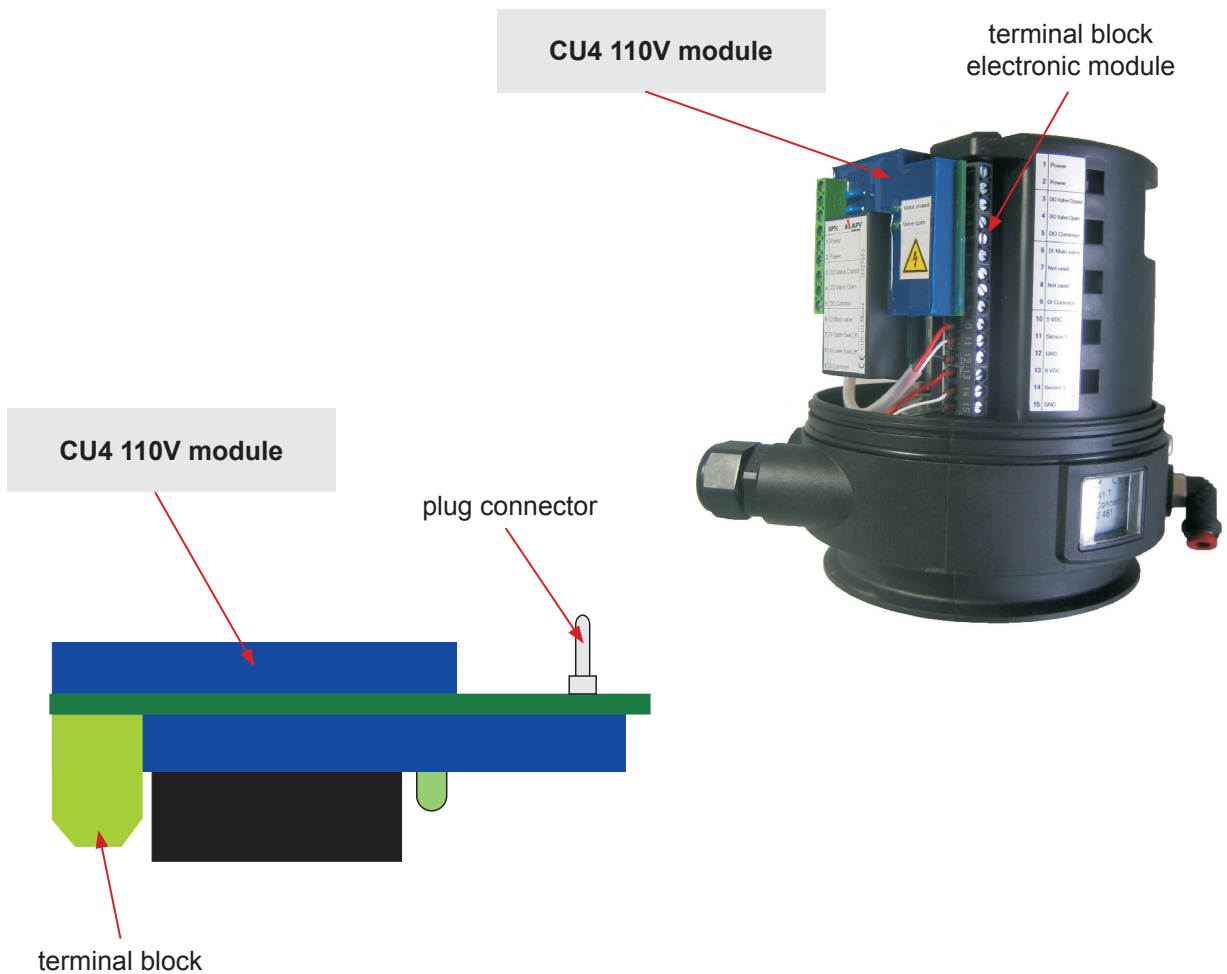
The CU4 110V module is not designed and permitted for other purposes of use.



## 4. Installation / Assembly



Installation is carried out by screwing the plug connectors of the CU4 110V module in the terminal block of the electronic module. This provides for the mechanical fixing and electrical contacting. Observe that the first plug of the connector is inserted into the first terminal of the terminal block! To ensure the exact contacting of all connections, every screw of the electronic module must be tightened properly. If this instruction is not observed, failures in the transfer of signals and the destruction of electronic components can be the consequence.



### Attention !

The CU4 110V module must only be operated with voltage in installed state. Otherwise, the module or electronic components can be destroyed. Observe Safety Instructions of chapter 2.



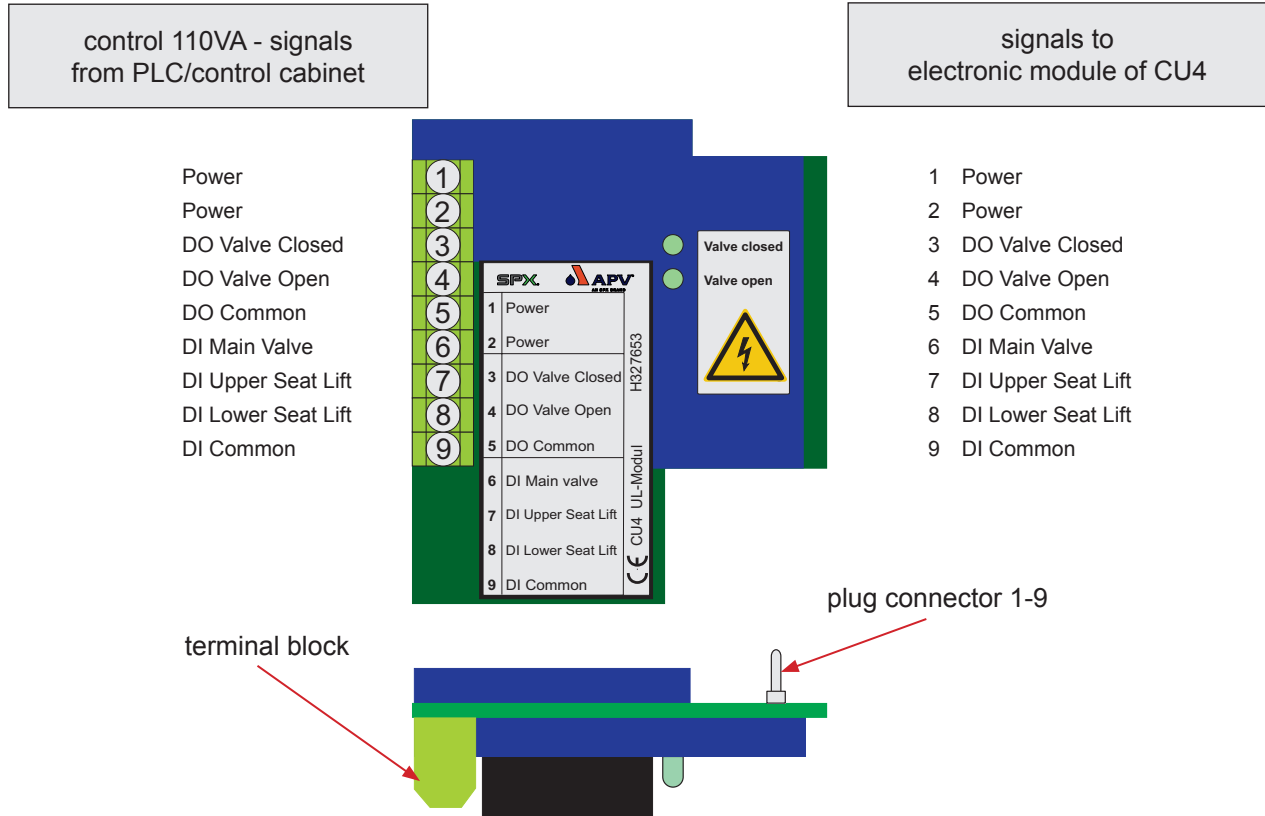
## 5. Electric Connection



### Attention !

Electric connections must only be carried out by qualified personnel.

Observe the correct operating voltage (see page 8).



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## 6. Technical Data

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Technical data to connect the CU4 110V module to a CU41 Direct Connection or CU43 Direct Connect control unit.

**Operating voltage :** 100V AC - 240V AC  
**Dig. input (DI):** 25V - 130V AC  
I<sub>max.</sub> = 1,2mA 110V AC

**Dig. output (DO):** U<sub>max.</sub> = 160V AC  
I<sub>max.</sub> = 0,1 A AC

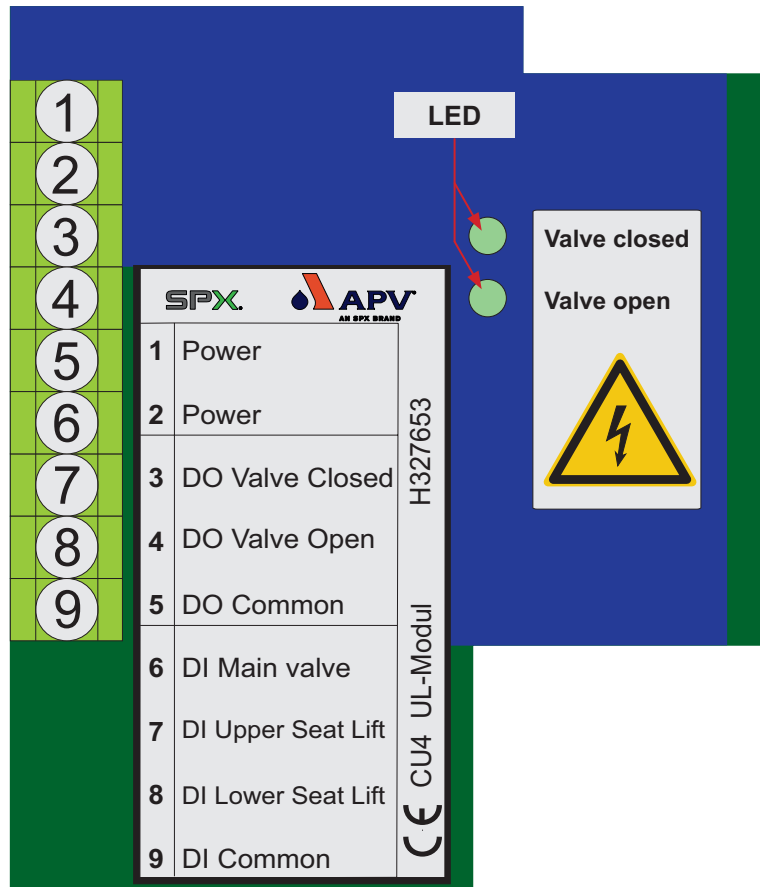
Max. power input with connected CU43,  
1 sensor active, 2 solenoid valves switched on.

I = 28 mA AC persistent current  
I<sub>s</sub> = 32 mA AC starting current

**Connecting terminals:** conductor cross section  
0,5-1,5 mm<sup>2</sup>  
(with conductor sleeve)  
complying with AWG 20-16

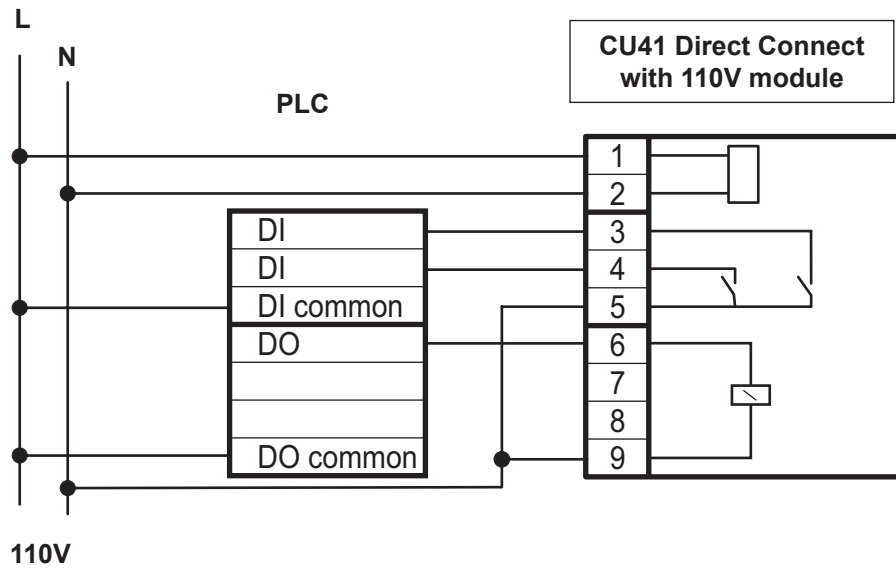
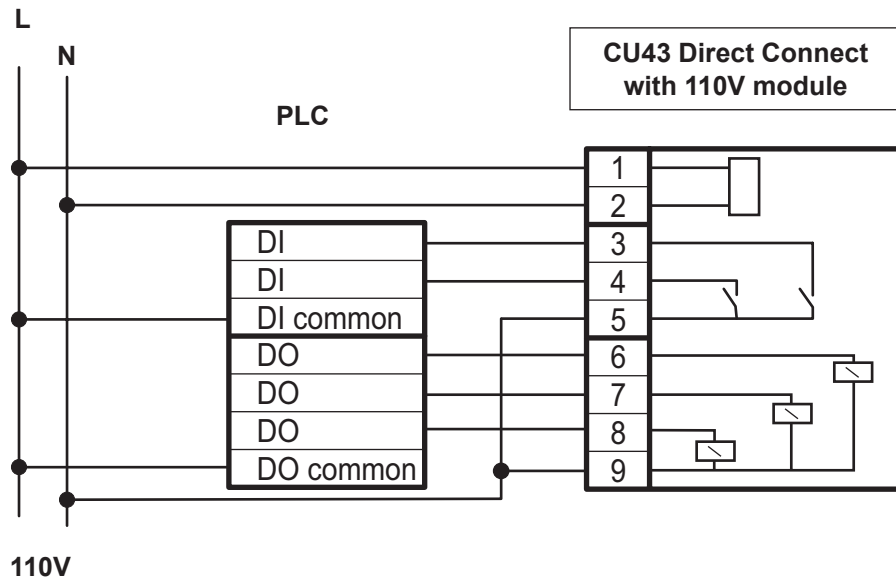
## 7. LED indicators

The CU4 110V module is equipped with two luminous diodes to indicate the valve position.



LED	Description
valve closed	emits light when sensor is switched <b>“Valve closed”</b>
valve open	emits light when sensor is switched <b>“Valve open”</b>

## 7. Wiring examples



APV CU4 110V

MODULE

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