

Ex22BB SEQUENCER FOR DEDUSTING PLANTS

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1.1 DESCRIPTION

Sequencer for dedusting plant cleaning cycle control with digital dP control by internal transducer.

2.1 STANDARD FEATURES

- C7d1 Maximum dP alarm. Contact open with alarm. Automatic reset.
- C8 dP zero readout regulation
- C13_10 dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- DPa Air connections 6x4 RILSAN pipe
- C1d Differential pressure digital control
- C3 Differential pressure readout from internal transducer (max 10 kPa)
- D1ab1 Additional cycles after fan stop with fan mode selection.
- B2x Activation time from 0.05 to 5.00 sec.
- B3x Interval time from 1 to 999 sec.
- D6 ON/OFF Cleaning cycle from external contact.
- AL1 Alarm relay contacts open
- B1b Select Number of outputs
- B8a Short-circuit protection of every single output
- B10b Manual activation of every single output from keyboard
- G1 Maximum load power 25W per output
- C0 Input activation from external contacts
- HV Input / Output voltage selection.

  II 3D Ex tc IIIC IP65 T100°C

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 **ECOTECH** GTS®
GREEN TECHNOLOGIES & SAFETY

GENERIC DOCUMENTATION. THE SPECIFIC DOCUMENTATION IS ATTACHED TO THE SEQUENCER


2.2 STANDARD FEATURES

Code	Description
C7d1	Maximum dP alarm. Contact open with alarm. Automatic reset. If the dP readout is above the threshold in Set up, the maximum dP alarm is activated. The display shows the alarm condition code E7 (see the alarm description) or the dP readout and letter H alternatively, according to the model. The corresponding alarm relay will signal its condition. The alarm is automatically reset when the dP readout is below the alarm threshold again. The activation of this alarm is delayed by 20 seconds by default.
C8	dP zero readout regulation In this set up code it is possible to adjust the zero reading of differential pressure. In this function the display shows the dP reading and, with plant stops or air pipes not connected if the dP reading is not 0.00 kPa it is possible to adjust it by key A and C.
C13_10	dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O. Maximum differential pressure value measurable by the device 10.00 kPa = 100.0 mbar = 1012 mmH2O. With dP reading over 10 kPa the display shows 'E' instead of the numeric value of dP.
DPa	Air connections 6x4 RILSAN pipe
C1d	Differential pressure digital control If dP control is active (Set F07 = 1), the cleaning cycle starts and stops according to the dP reading. With dP reading under the STOP threshold the cleaning cycle stops and the display shows dP reading and letter P alternatively. The cleaning cycle stop is at the end of the cycle. With dP reading over the START threshold the cleaning cycle is able to start.
C3	Differential pressure readout from internal transducer (max 10 kPa)
D1ab1	Additional cycles after fan stop with fan mode selection. In set up it is possible to select the mode to manage the fan and the post-cleaning cycles: SET F13 = 0 (not available with C11a option) If you connect a voltage-free auxiliary contact of the circuit intended to drive the fan with the sequencer, it is possible to add a pre-set number of cleaning cycles after the fan stop. Their number can be set from the keyboard from 0 to 99. Post-cleaning cycles can be also activated when dP = 0. If the D1a contact is open, the display will show both '-0-' and the dP reading alternated, to indicate that the cycle is not working because the fan is off. The decimal points on the display will flash on and off during the cycles after the fan stops. NOTE D1a: Connect D1a by means of a jump if it is not used with active inputs (see F01). SET = 1 If the dP control is activated, you can add a pre-set number of cleaning cycles after the fan stop. Their number can be set from the keyboard from 0 to 99. The Timer compare the dP readout with a 0.20 kPa fixed threshold. When dP readout goes down under 0.20 kPa the additional cleaning cycles start if the dP readout should reach the cycle STOP threshold value during the normal operation. The decimal points on the display will flash on and off during the additional cycles. With dP < 0.20 kPa the display shows '-0-' and the dP reading alternatively.
B2x	Activation time from 0.05 to 5.00 sec.
B3x	Interval time from 1 to 999 sec. If the pulse time is lower than 1 sec. it is possible to set any interval time value in the range indicated. If the activation time is higher than 1 sec. the minimum settable interval time is: Minimum interval time = 5 times pulse time (B2x)
D6	ON/OFF Cleaning cycle from external contact. If contact D6 is open, the cleaning cycle is not enabled and the display shows 'OFF'. With sequencer with digital dP control the display shows 'OFF' and the dP reading alternatively. By closing D6, the cleaning cycle can start from the first electrovalve NOTE D6: Link D6 clamps if it is not used with inputs from external contact active. (see 5.1 : SETUP F01).
AL1	Alarm relay contacts open The relay contacts signaling the presence of alarm are open if there is no supply or in presence of alarm condition. With power supply on and in the absence of an alarm, the contact is closed. Relay contacts: 42 VAC - 5 A Max / 42VDC - 3A Max

2.2 STANDARD FEATURES

Code	Description
B1b	Select Number of outputs The selection of the number of outputs to be control led is connected by keyboard in SET MODE. If you set 0 or AUTO in this function the sequencer will automatically select the connected loads by skipping the non connected ones. Minimum load $5W \div 12 W$ depending on the output voltage. If the load is below of the minimum, the autoselection does not work correctly, set the number of outputs in set up.
B8a	Short-circuit protection of every single output In case of short circuit, the output is automatically skipped, the relay K1, normally active, is deactivated and the terminal board contact opens. The display alternatively shows code E1 and the number of the faulty output. Press key B to reset the alarm.
B10b	Manual activation of every single output from keyboard By keyboard, it is possible to activate manually and individually every single output for an operation test. Press key C to select the desired output to be activated. Press key A to activate the output. The output is holded active for all the time that key A is pressed. It allows to measure the output voltage by using a tester. In case of anomalous operating, do this test with electrovalves disconnected.
G1	Maximum load power 25W per output
C0	Input activation from external contacts In Set up you can activate or deactivate the control of all the inputs of the device. If inputs are deactivated, they are considered as always closed and no jumper is required on the terminal board. Use a jumper for unused inputs if you activate them. NOTE: all inputs of the device have to be connected to external contact without voltage.
HV	Input / Output voltage selection. Use the jumpers on the board to select the supply voltage and the output voltage on the electrovalves. (See the board layout). JP1: Supply voltage selection between 115VAC and 230VAC. JP2: Output voltage selection between 24, 115, 230 V (Only with 115VAC or 230VAC power supply). JP3: Output voltage selection between AC and DC only with JP2 set to 24V. WARNING: set F08 (PB/BB) or F16 (PC/BC) to the same output voltage that has been selected by means of the jumpers to adjust the shortcircuit threshold. Otherwise, this might cause any malfunction or damage to the sequencer.

3.1 INSTALLATION RULES AND SECURITY

- 3.2 Protect the device against the direct exposure to the sun.
- 3.3 Avoid arranging the device in the proximity of or in direct contact with any source of heat and electromagnetic field. Connect the device on supply lines different from those used for motor drives or other devices that may cause some noise on the net.
Not security equipment.
- 3.4 Fix the device on the wall at minimum 60 cm from the floor.
- 3.5 The access to the device to adjust operating parameters have to be done by person with appropriate skills.
- 3.6 Before acting on the device for any operation, check for safe conditions. For electrical operations never forget to disconnect the power supply, wait for 30 seconds for the internal capacitors discharge before opening. At the end of the operations close the device to restore the protection degree before powering again.
- 3.7 In case of faulty that does not depend only the fuse, switch off immediately the supply voltage and contact the supplier.
- 3.8 One time in a month or more frequently if necessary verify if there is dust on the enclosure of the device and remove it if it is present by using wet cloth.
- 3.9 For supply voltages, cabling and voltages applicable to the relay contacts, follow the current rules
- 3.10 For all input control signals to the Timer (D1a, D5, D6,...) use anti-flame wires with a minimum section of 0.5 mm².
- 3.11 For the electrical connection of the supply voltage and filter cleaning electrovalves use anti-flame wires with a minimum section of 0.75 mm². For output relay contacts use anti-flame wires with a minimum section of 1.5 mm².
- 3.12 For the output signal 4÷20 mA use anti-flame shielded wire with minimum section of 0,5 mm². (Option on request. Code: C11a)
- 3.13  Do not connect to earth the common of the electrovalves (see electrical wiring diagram).
- 3.14 The lack of application of existing rules and standards of installation and safety exonerate the manufacturer of responsibility.

4.1 TECHNICAL FEATURES

Supply Voltage	To be defined
Solenoid valves voltage	To be defined
Fuse	250 V / 1 A F (5x20)
Power requirement	10 VA (Stand-by) - 30 VA Max ev ON
Operating temperature	- 10 °C ÷ + 50 °C
No. Outputs	32
dP Control	With internal trasducer
Pneumatic connection	Rilsan 6 x 4
Dimensions / Protection degree	180x254x111 mm. / IP66
Terminals	2,5 mm ² - 250 VAC / 12 A
Voltage applicable to the relay contacts	42 VAC - 5 A Max / 42VDC - 3A Max



A wrong supply voltage connection might cause irreparable damages to the device.

The fuse wire protect only from any short circuit and not necessarily from wrong supply voltage.

5.1 ENTER DATA IN SET MODE (SETUP)

If no button is pressed for 5 minutes, the device leaves the setup mode, restarting normal operation.

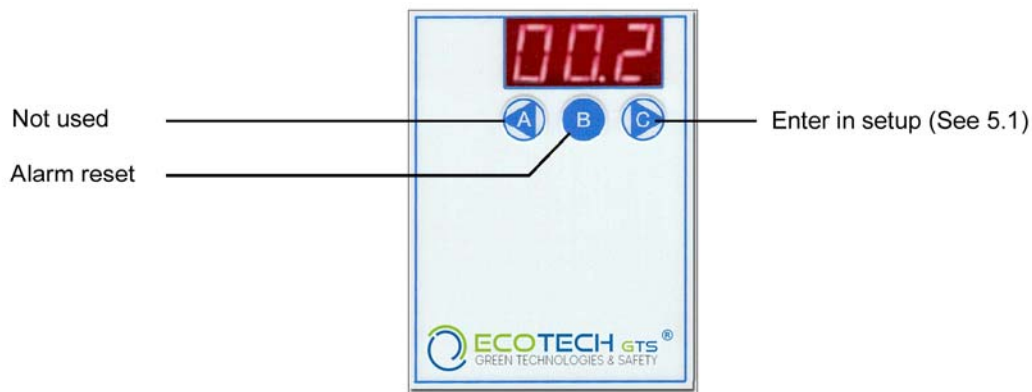


1. Press key C to have access to the SETUP menu F01
2. Press key C again to select the desired function F01, F02, F03 ...
3. Press key A to modify data.
4. Press key A or C at the same time to change the data item.
5. Press key B to go back to the function menu SETUP Fxx.
6. Press key B to quit SETUP and go back to the operating mode.

SETUP	DESCRIPTION	DATO	Range	Code	Default
F01	Inputs from external contacts	0 = Enabled 1 = Disable	0÷1	C0	1
F02	Pulse time from 0.05 to 5.00 sec.		0.05÷5.00	B2x	0.50
F03	Interval time between ev. from 1 to 999 sec.		1÷999	B3x	005
F04	Selection Number of electrovalves	0 = Automatic selection of the load 1÷xx = Set number of solenoid valves	0 ÷ 32	B1b	000
F05	Number additional cycles after fan stop		0÷99	D1ab1	002
F06	TEST Manual activation of every single ev. from keyboard	Key A = Activate solenoid Key C = Select solenoid These keys work only after entering the SETUP	0 ÷ 32	B10b	
F07	Operation selection AUTOMATIC / MANUAL	0 = Manual 1 = Automatic (Cleaning by dP values)	0÷1	C1d	1
F08	Output voltage for ev. selection (see HV). Necessary for right B operating of B8x			HV	Vout
F09	dP zero readout regulation			C8	0.00
F10	1st dP threshold, STOP cleaning since dP low		0.01÷9.99	C1d	1.00
F11	2nd dP threshold, START cleaning since dP high		0.01÷9.99	C1d	2.00
F12	Maximum dP alarm threshold.		0.01÷9.99	C7d1	3.00
F13	Additional cycles mode selection	0 = By contact 1 = By dP reading	0÷1	D1ab1	0

6.1 DISPLAY INDICATIONS IN OPERATION

When supply voltage switch on the cleaning cycle starts if all the necessary conditions for running are present.

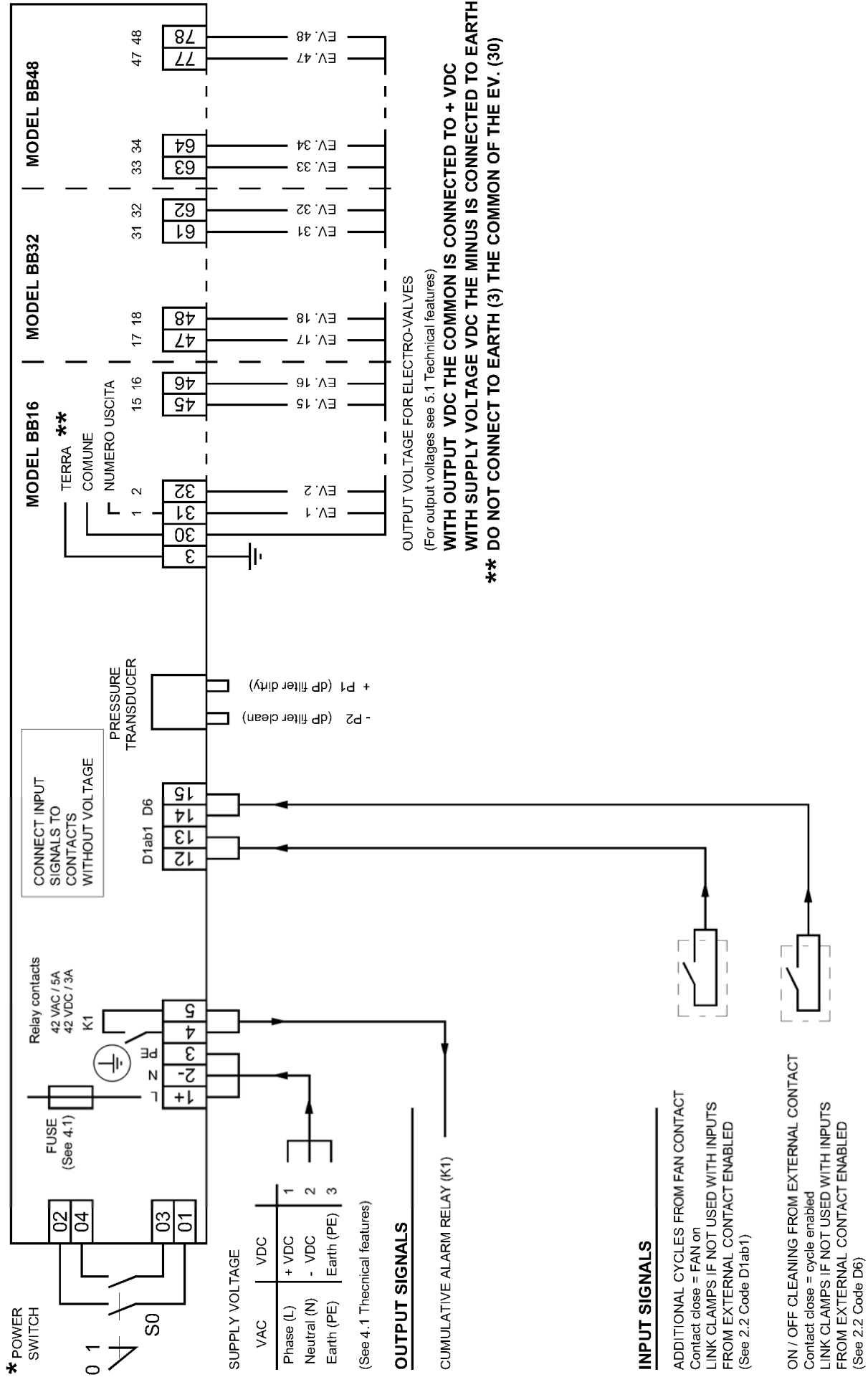


DISPLAY	DESCRIPTION	Code
1.23 / OFF	Cycle stops for cleaning consent missing (D6 open)	D6
0.00 / -0-	Cycle stops for ventilator OFF. dP reading < 0.20 kPa.(See 5.1 Code D1ab1)	D1ab1
A01	Number of activated electrovalve	
0.50 / P	Cycle stops for low dP.	C1d
...	Additional cycles after ventilator stop active (Blinking points)	D1ab1
1.23	Differential pressure reading (Standard in kPa)	C13_10
E	dP reading over range	C13_x

7.1 DISPLAY INDICATIONS WITH ALARM

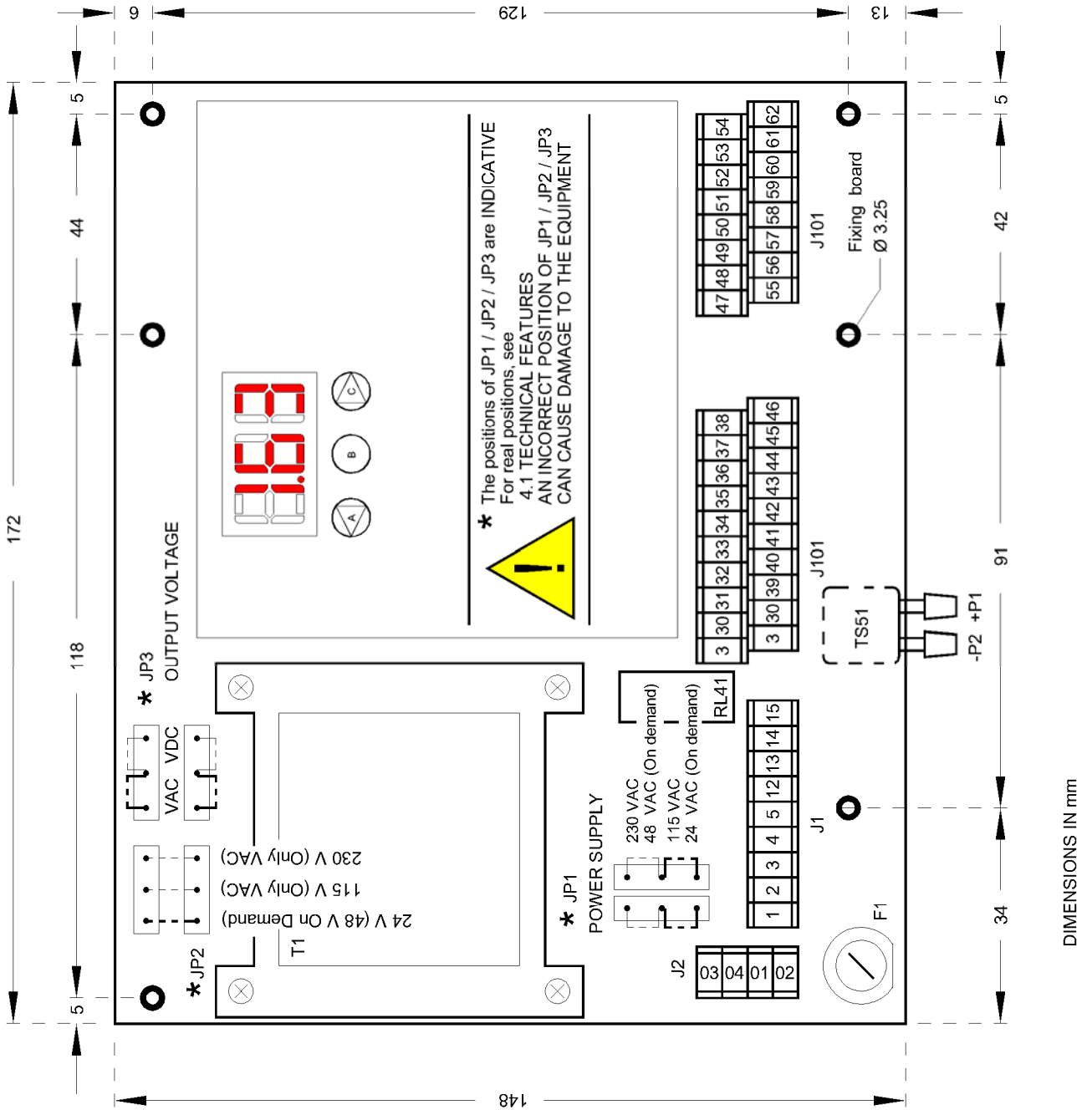
DISPLAY	DESCRIPTION
1.50 / H	Maximum dP alarm (display blinking). Filter congested. Check the solenoid valves activation and cleaning frequency.
E1/05	Overload output 05 (Example, Display blinking). Check the ev. connection; state of the coil of the ev. indicated on display and possible presence of water inside the electric connector of the ev.

8.1 WIRING DIAGRAM



9.1 ELECTRONIC BOARD SIZE AND VOLTAGE SETTINGS

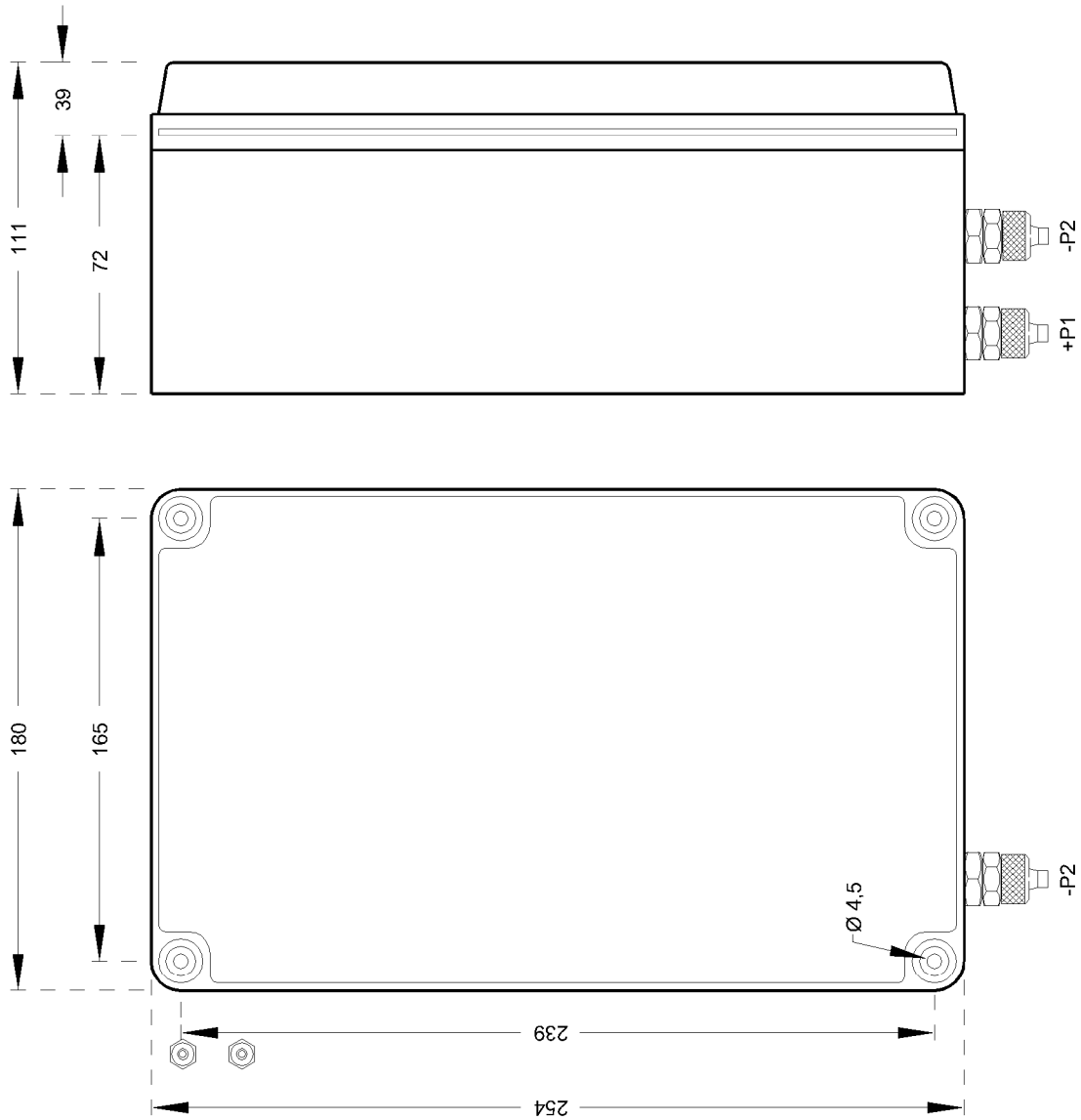
LEGEND	
F1	5x20 Line protection fuse
J1	Supply voltage and I/O connection clamps
J2	Power switch connection clamps
J101	Ev. connection clamps.
JP1	Supply voltage selection jumper
JP2	Output voltage selection jumper
JP3	Output voltage AC/DC selection
RL41	Output relay K1
T1	Input transformer
TS51	Differential pressure transducer
+P1	dP pressure side dirty
-P2	dP pressure side dirty



DIMENSIONS IN mm

10.1 ENCLOSURE DIMENSIONS

TECHNICAL FEATURES	
Code	1.50
Certified	CEC 08/2066-AET 492V
Protection degree	IP66
Material	PS thermoplastic
Temperature	- 25 °C ÷ 50 °C
Colour	RAL 7035
+P1	dP input side dirty
-P2	dP input side clean



DIMENSIONS IN mm.

11.1 PROBLEM SOLUTION

DEFECT	POSSIBLE CAUSE	SOLUTION
Display OFF	Fuse burnt. Supply voltage. Jumper for input voltage selection	Check the protection fuse on supply line. Check if supply voltage is present and if it agrees with supply voltage needed by the device (clamps 1 and 2). Check jumper JP1.
No output activation	Output voltage. Connection to the electrovalves. Jumper for output voltage selection	Check that sequencer output voltage and electrovalve coils have the same voltage. Check the connection between sequencer and electrovalves and do manual test of the outputs (See B10). Check jumper JP2 and JP3.
Wrong differential pressure reading.	Pneumatic connection not free. Pipe damaged	Disconnect the 2 pipe to the device and verify that dP reading is 0.00 kPa. If it is OK check the pipe for air connection from the device to the filter.
The cleaning cycle do not run in according to the set value.	The memory of the microprocessor could be modified by external factor.	Switch Off the supply voltage of the sequencer. Hold down key B and switch on the supply voltage. By means of this operation the default data are loaded in set up. Adjust the zero dP reading and the other parameters according to the filter's needs.



We reserve the right to make any change without notice.

12.1 WARRANTY

The warranty lasts 4 years. The company will replace any defective electronic component, exclusively at our laboratory, unless otherwise agreed, upon the Company's prior consent.

WARRANTY EXCLUSION

The warranty is not valid in case of:

- 1) Tampering or unauthorized repairs.
- 2) Wrong use of the device, not in compliance with technical data.
- 3) Wrong electrical wiring.
- 4) Inobservance of the installation rules.
- 5) Use of the device, not in compliance with CE rules.
- 6) Atmospheric events (Lightning, electrostatic discharge), Overvoltage.

ADDITIONAL INSTALLATION RULES (ATEX ZONE 22)

The ATEX certification decade in case of every type of modifications of the original device that are not done by the manufacturer

All the electrical wiring must be done according to the European rule EN 60079-14

In case of faulty that does not depend only to the fuse, switch off immediately the supply voltage and contact the supplier. The reparation of the device must be done only in our laboratory and the device must be sent with the enclosure to our factory.

In case of application of cable glands by the final user, The company does not assume any responsibility. Use only cable glands IP65 ATEX certified with same or superior certification of the device and type ISO R/68.

The fixing holes must be done with the right diameter indicated for that cable gland.

With the purpose to avoid the entry of dust inside the equipment through the pneumatic connections for the reading of the dP, insert on such lines an oportune systems for dusts blocking.

ATEX MARKING DETAILS



EUROPEAN UNION Conformity brand



Useful in ATEX classified zone with potentially explosive atmosphere.

II	Group II. Surface plant
3D	Category - Dust
Ex tc	Level of protection by enclosure
IIIC	Explosive conductive powders
IP65	Protection degree
T100°C	Maximum surface temperature
-10<Ta<+50 °C	Ambient temperature

EU Declaration of Conformity (DoC)

Dichiarazione di conformità UE

Company name / Nome del fabbricante:

ECOTECH GTS S.R.L.

Postal address / Indirizzo postale:

Via Del Plan Del Sant, 24

Postcode and City / CAP e Città:

38012

Predaia Frazione Mollaro (TN)

Telephone / Telefono:

+39 0463 46 10 49

E-Mail address / Indirizzo Posta elettronica:

info@ecotechgts.com

declare that the DoC is issued under our sole responsibility and belongs to the following product:

Apparatus model / Apparecchio modello:

BB

Product Type / Tipo di prodotto:

Sequencer / Sequenziatore

Serial number / Numero serie:

Object of the declaration / Oggetto della dichiarazione:

Ex22BB32MU1.50

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation

L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione

Directives 2014/30/UE and 2011/65/UE

Direttiva 2014/30/UE e 2011/65/UE

Directives 2014/34/UE / Direttiva 2014/34/UE

The following harmonised standards and technical specifications have been applied:

Riferimento alle pertinenti norme armonizzate utilizzate

Title / Titolo

Date of standard / Data di pubblicazione

EN 60730-1

2011

EN 50581

2012

EN 60079-0 / A11:2013

2013-09

EN 60079-31

2014



II 3D Ex tc IIIC IP65 T100°C

Amministratore delegato

Alessandro Corazzolla

Signed for and on behalf of / Firmato a nome e per conto di

Mesero, 27 / 08 / 2019

3.1 INSTALLATION AND SECURITY RULES (GB). (REFEREMENT LANGUAGE)

- 3.2 Protect the device against the direct exposure to the sun.
- 3.3 Avoid arranging the device in the proximity of or in direct contact with any source of heat and electromagnetic field. Connect the device on supply lines different from those used for motor drives or other devices that may cause some noise on the net.
Not security equipment.
- 3.4 Fix the device on the wall at minimum 60 cm from the floor.
- 3.5 The access to the device to adjust operating parameters have to be done by person with appropriate skills.
- 3.6 Before acting on the device for any operation, check for safe conditions. For electrical operations never forget to disconnect the power supply, wait for 30 seconds for the internal capacitors discharge before opening. At the end of the operations close the device to restore the protection degree before powering again.
- 3.7 In case of faulty that does not depend only the fuse, switch off immediately the supply voltage and contact the supplier.
- 3.8 One time in a month or more frequently if necessary verify if there is dust on the enclosure of the device and remove it if it is present by using wet cloth.
- 3.9 For supply voltages, cabling and voltages applicable to the relay contacts, follow the current rules
- 3.10 For all input control signals to the device (D1a, D5, D6,...) use anti-flame wires with a minimum section of 0.5 mm².
- 3.11 For the electrical connection of the supply voltage and filter cleaning electrovalves use anti-flame wires with a minimum section of 0.75 mm². For output relay contacts use anti-flame wires with a minimum section of 1.5 mm².
- 3.12 For the output signal 4+20 mA use anti-flame shielded wire with minimum section of 0,5 mm². (Option on request. Code: C11a)
- 3.13 Do not connect to earth the common of the electrovalves (see electrical wiring diagram).
- 3.14 The lack of application of existing rules and standards of installation and safety exonerate the manufacturer of responsibility



A wrong supply voltage connection might cause irreparable damages to the device.
The fuse protect only from any short circuit and not necessarily from wrong supply voltage.

3.1 ZASADY BEZPIECZEŃSTWA ORAZ MONTAŻU (PL)

- 3.2 Zabezpieczyć urządzenie przed bezpośrednim oddziaływaniem promieni słonecznych.
- 3.3 Umieścić urządzenie z dala od źródeł ciepła i pól elektromagnetycznych. Należy podłączyć je do linii zasilania różnych od tych, które są używane do uruchamiania silników lub innych urządzeń o dużej mocy, które mogą generować zakłócenia sieci.
Urządzenie nie jest chronione.
- 3.4 Przymocować urządzenie do ściany, na wysokości, co najmniej 60 cm od podłogi.
- 3.5 Dostęp do urządzenia w celu regulacji parametrów pracy powinny mieć osoby z odpowiednimi uprawnieniami.
- 3.6 W celu dokonania jakiegokolwiek czynności na urządzeniu, należy sprawdzić czy są zachowane warunki bezpiecznego użytkowania. Podczas wykonywania prac natury elektrycznej należy przed otwarciem odłączyć napięcie i odczekać 30 sekund na rozładowanie wewnętrznych kondensatorów. Po zakończeniu należy zamknąć urządzenie, aby zachować stopień zabezpieczenia przed ponownym podłączeniem napięcia
- 3.7 W przypadku uszkodzona nie spowodowanego bezpiecznikiem, należy natychmiast wyłączyć zasilanie i skontaktować się z dostawcą urządzenia.
- 3.8 Raz w miesiącu lub w razie potrzeby częściej należy sprawdzić czy kurz nie gromadzi się na obudowie urządzenia. W przypadku jeśli jest on obecny należy usunąć go przy użyciu wilgotnej szmatki.
- 3.9 Dla napięcia zasilania, okablowania i napięć na stykach przekaźników należy przestrzegać aktualnych przepisów.
- 3.10 Dla wszystkich sygnałów kontrolnych na wejściu (D1a, D5, D6,...) stosować kable w powłoce ogniochronnej, o minimalnym przekroju 0.5 mm².
- 3.11 Do podłączania napięcia zasilania oraz zaworów elektromagnetycznych czyszczenia filtra należy wykorzystać kable w powłoce ogniochronnej, o minimalnym przekroju 0,75 mm². Dla styków przekaźnikowych sygnalizacyjnych używać kable w powłoce ogniochronnej o przekroju 1,5 mm².
- 3.12 Dla sygnału 4+20 mA na wyjściu używać kabel ekranowany w powłoce ogniochronnej, o minimalnym przekroju 0,5 mm² (Opcja na życzenie. Kod: C11a)
- 3.13 Nie podłączać do wspólnego uziemienia zaworów elektromagnetycznych (patrz schemat elektryczny).
- 3.14 Brak stosowania istniejących przepisów i norm bezpieczeństwa instalacji zwalnia producenta od odpowiedzialności.



Nieprawidłowe podłączenie napięcia może powodować nieodwracalne uszkodzenie urządzenia.
Bezpiecznik chroni tylko przed ewentualnymi zwarciami i niekoniecznie przed nieprawidłowym napięciem

3.1 BEÉPÍTÉSI ÉS BIZTONSÁGI SZABÁLYOK (H)

- 3.2 A berendezést ne tegye ki közvetlen napsugárzásnak.
- 3.3 A berendezést úgy helyezze el, hogy ne kapjon közvetlen hőszugárzást, ne érintkezzen meleg felületekkel, és ne kerüljön elektromágneses térbe. A berendezés tápellátása ne legyen közös elektromos motor meghajtással, vagy más olyan eszközzel, ami elektromos zavart okozhat.
Ez az eszköz nem biztonsági berendezés.
- 3.4 A berendezést rögzítse függőleges felületre, a talajtól legalább 60 cm távolságra.
- 3.5 A berendezést csak szakképzett személy kezelheti.
- 3.6 A berendezéssel való bármilyen művelet megkezdése előtt ellenőrizze a biztonságos munkavégzés feltételeinek meglétét. Az elektromos részekkel való munkavégzés előtt győződjön meg arról, hogy a berendezés áramtalanítva van. Áramtalanítás után várjon legalább 30 másodpercet a feltöltődött kapacitások kisülésére, mielőtt leveszi a burkolatot. A művelet befejezése után úgy zárja le a burkolatot, hogy a berendezés eredeti védelmi fokozata megmaradjon.
- 3.7 Bármilyen hiba esetén, amit nem a biztosíték kioldváása okoz, azonnal áramtalanítsa a berendezést és lépjen kapcsolatba a berendezés szállítójával.
- 3.8 Havonta legalább egyszer ellenőrizze, hogy nem került-e por a berendezésre, és ha igen, akkor egy nedves törülközővel távolítsa el azt.
- 3.9 A tápfeszültség bekötésénél, a kábelezésnél és a relé kontaktusokra viett feszültségek esetében az érvényes műszaki előírások szerint járjon el.
- 3.10 A berendezésre kerülő valamennyi bemeneti jel esetén (D1a, D5, D6,...) használjon legalább 0.5 mm² keresztmetszetű lángálló vezetékét.
- 3.11 A tápfeszültség és a szűrő-tisztító (lefúvató) mágnesszelepek kábelezésekor használjon legalább 0.75 mm² keresztmetszetű lángálló kábelt. A kimeneti relé kontaktusok részére legalább 1.5 mm² keresztmetszetű lángálló kábelt használjon.
- 3.12 A 4+20 mA kimeneti jelek részére használjon legalább 0,5 mm² keresztmetszetű lángálló, páncélozott kábelt. (Az opció jelet: C11a)
- 3.13 A mágnesszelepek közös vezetékét ne kösse a földeléshez. (Lásd elektromos bekötési rajz).
- 3.14 Az érvényben lévő előírások, szabályok, szabványok és biztonsági előírások figyelmen kívül hagyása kizárja a gyártó bármilyen felelősségét.



A tápfeszültség hibás bekötése nem javítható kárt okozhat a berendezésben.
A beépített biztosíték csak rövidzár ellen véd, de nem feltétlenül véd a helytelen tápfeszültségtől.

3.1 INŠTALÁCIA A BEZPEČNOSTNÉ PRAVIDLÁ (SK)

- 3.2 Chráňte zariadenie pred priamym slnečným svetlom.
- 3.3 Neinštalujte zariadenie v blízkosti alebo v priamom kontakte so zdrojom tepla a elektromagnetického poľa. Pripojte zariadenie na napájacie vedenie odlišných od tých, ktoré sa používajú pre elektromotory a iné zariadenia, ktoré môžu spôsobovať rušenie siete. Nie je bezpečnostné zariadenie.
- 3.4 Inštalujte zariadenie na stenu, minimálne 60 cm od podlahy.
- 3.5 Nastavenie parametrov zariadenia môže vykonávať iba osoba s potrebnými znalosťami.
- 3.6 Pred nastavením zariadenia, skontrolujte bezpečnostné podmienky. Pre elektrické operácie nikdy nezabudnite na odpojenie elektrického napájania, počkajte 30 sekúnd pre vnútorné vybitie kondenzátorov pred otvorením. Na konci operácie uzatvorte zariadenie pre obnovenie stupňa ochrany pred opätovným zapnutím.
- 3.7 V prípade poruchy, ktorá nezávisí na poistke, vypnite ihneď napájacie napätie a obráťte sa na dodávateľa.
- 3.8 Raz za mesiac alebo častejšie, ak je to potrebné skontrolujte, či je na zariadený prach a v prípade potreby ho odstráňte pomocou vlhkej handričky.
- 3.9 Pre napájacie napätie, kabeľáž a na napätie na kontaktoch relé, je potrebné sa riadiť nasledujúcimi pravidlami.
- 3.10 Pre vstupný riadiaci signál do zariadenia (D1a, D5, D6, ...) použite nehořľavé káble minimálny prierez 0,5 mm².
- 3.11 Pre pripojenie vstupného elektrického napätia a vstupného elektrického napätia na ventily použite nehořľavé káble s minimálnym prierezom 0,75 mm². Pre výstupné relé použite nehořľavé káble s minimálnym prierezom 1,5 mm².
- 3.12 Pre spätný signál 4+20 mA použite nehořľavé káble s minimálnym prierezom 0,5 mm². (Voliteľné na požiadanie kód: C11a)
- 3.13 Neuzemňujte elektroventily (pozri schému elektrického zapojenia)
- 3.14 Nedostatočné dodržiavanie existujúcich pravidiel a noriem pre inštaláciu a bezpečnosť oslobodzuje výrobcu od zodpovednosti



Nesprávne vstupné napätie môže spôsobiť nenapraviteľné škody na zariadení.
Poistka chráni iba pred skratom a nie pred nesprávnym vstupným napätím.

3.1 ΚΑΝΟΝΕΣ ΕΓΚΑΤΑΣΤΑΣΗΣ ΚΑΙ ΑΣΦΑΛΕΙΑΣ (GR)

- 3.2 Προστατεύστε τη συσκευή από την άμεση έκθεση στον ήλιο.
- 3.3 Αποφύγετε να τοποθετήσετε τη συσκευή κοντά ή σε άμεση επαφή με οποιαδήποτε πηγή θερμότητας και του ηλεκτρομαγνητικού πεδίου. Συνδέστε τη συσκευή στις γραμμές προμήθειας διαφορετικές από εκείνες που χρησιμοποιούνται για μονάδες δίσκου με κινητήρα ή άλλες συσκευές που μπορεί να προκαλέσουν κάποιο θόρυβο στο διαδίκτυο.
ΟΧΙ εξοπλισμό ασφαλείας.
- 3.4 Τοποθετήστε τη συσκευή στον τοίχο στο ελάχιστο 60 cm από το δάπεδο.
- 3.5 η πρόσβαση στη συσκευή για να ρυθμίσετε παραμέτρους λειτουργίας πρέπει να γίνει από άτομο με τις κατάλληλες δεξιότητες.
- 3.6 προτού ενεργήσετε στη συσκευή για οποιαδήποτε λειτουργία, ελέγξτε για ασφαλείς συνθήκες. Για ηλεκτρολογικές εργασίες μην ξεχάσετε να απσυνδέσετε το τροφοδοτικό, περιμένετε 30 δευτερόλεπτα για την αποφόρτιση των εσωτερικών πυκνωτών πριν από το άνοιγμα. Στο τέλος των εργασιών, κλείστε τη συσκευή για να επαναφέρετε το βαθμό προστασίας πριν την επανατροφοδότηση.
- 3.7 σε περίπτωση ελαττώματος που δεν εξαρτάται μόνο από το διακόπτη ασφαλείας, σβήστε αμέσως την τάση τροφοδοσίας και επικοινωνήστε με τον προμηθευτή.
- 3.8 μια φορά το μήνα ή συχνότερα, εφόσον είναι απαραίτητα, ελέγξτε αν υπάρχει σκόνη στο περίβλημα της συσκευής και αφαιρέστε την αν υπάρχει χρησιμοποιώντας βρεγμένο πανί.
- 3.9 για τάσεις τροφοδοσίας, καλωδιώσεις και τάσεις που ισχύουν για τις επαφές relé, ακολουθήστε τους ισχύοντες κανόνες
- 3.10 για όλες τις εισόδους σήματος, ελέγχου της συσκευής (D1a, D5, D6, ...) Χρησιμοποιήστε αντι-φλόγας καλώδια με ένα ελάχιστο τμήμα του 0,5 mm².
- 3.11 για την ηλεκτρολογική σύνδεση της παρεχόμενης τάσης και των ηλεκτροβαλβίδων καθαρισμού του φίλτρου χρησιμοποιήστε αντι-φλόγας καλώδια με ένα ελάχιστο τμήμα των 0,75 mm². Για επαφές relé εξόδου χρησιμοποιήστε αντι-φλόγας καλώδια με ένα ελάχιστο τμήμα του 1,5 mm².
- 3.12 για το σήμα εξόδου του 4+20 mA χρήση αντι-φλόγα θωρακισμένο καλώδιο με ελάχιστο τμήμα του 0,5 mm². (Επιλογή καιόπιν αιτήματος. Κωδικός: C11a)
- 3.13 Μην συνδέετε στη γείωση το κοινό των ηλεκτροβαλβίδων (δείτε το διάγραμμα ηλεκτρικής καλωδίωσης).
- 3.14 Η μη εφαρμογή των υφιστάμενων κανόνων και προτύπων εγκατάστασης απαλλάσσει τον κατασκευαστή από την ευθύνη



Μια λανθασμένη σύνδεση τάσης μπορεί να προκαλέσει ανεπανόρθωτες ζημιές στη συσκευή.
Ο διακόπτης ασφαλείας προστατεύει μόνο από τυχόν βραχυκύκλωμα και όχι απαραίτητα από λανθασμένη τάση τροφοδοσίας.

3.1 PŘEDPISY PRO INSTALACI A BEZPEČNOST (CZ)

- 3.2 Chraňte zařízení před přímým slunečním světlem.
- 3.3 Umístěte zařízení daleko od zdrojů tepla a elektromagnetických polí. Připojte zařízení k napájecímu vedení, které nenapájí pohony motorů či jiná vysoce výkonná zařízení, která mohou způsobit narušení sítě.
Nebezpečné zařízení.
- 3.4 Umístěte zařízení alespoň 60 cm od podlahy.
- 3.5 Přístup k zařízení, za účelem nastavení provozních parametrů, mohou provést pracovníci s odpovídající kvalifikací.
- 3.6 Před zahájením jakékoliv operace na zařízení se ujistěte, že se nachází v bezpečných atmosférických podmínkách. Při provádění elektrických operací vždy odpojte napájení od zařízení, před otevřením počkejte 30 sekund za účelem vypuštění vnitřních kondenzátorů. Po ukončení operace a před zapojením napětí uzavřete zařízení pro obnovení ochranného stupně.
- 3.7 V případě poruchy provozu, které nezávisí výhradně na ochranné pojistce, okamžitě odpojte zařízení od napětí a obraťte se na dodávatele.
- 3.8 Jednou za měsíc, nebo i častěji pokud je to nutné, ověřte přítomnost prachu na obalu a případně jej odstraňte vlhkým hadříkem.
- 3.9 Pro napájecí napětí, kabeľáže a napětí na kontaktech relé, dodržujte platné předpisy.
- 3.10 Pro všechny vstupní kontrolní signály (D1a, D5, D6, ...) použijte nehořľavé kabely s minimálním průřezem 0,5 mm².
- 3.11 Pro připojení napájecího napětí a elektroventilů pro čištění filtru použijte nehořľavé kabely s minimálním průřezem 0,75 mm². Pro kontakty relé k signalizaci použijte nehořľavé kabely s průřezem 1,5 mm².
- 3.12 U výstupního signálu 4 až 20 mA použijte stíněný nehořľavý kabel s minimálním průřezem 0,5 mm² (Volitelné příslušenství. Kód: C11a)
- 3.13 Neuzemňujte společné elektroventily (viz elektrické schéma).
- 3.14 Nedodržení stávajících předpisů a předpisů pro instalaci a bezpečnost zprošťuje výrobce odpovědnosti.



Nesprávne pripojenie napájecieho napätia by mohlo nenávratne poškodiť zařízení.
Pojistka chrání pouze proti zkratu a ne před špatným napájecím napětím.

3.1 INSTALLATIONS- OCH SÄKERHETSBESTÄMMELSER (S)

- 3.2 Skydda enheten från direkt exponering av solljus.
- 3.3 Placera enheten långt från värmekällor och elektromagnetiska fält.
Anslut enheten till elledningar som skiljer sig från motordrifter eller andra enheter med hög effekt som kan skapa störningar på nätet.
Ingen säkerhetsutrustning.
- 3.4 Placera enheten minst 60 cm från golvet.
- 3.5 Åtkomst till enheten för att ställa in driftsparametrarna är endast tillåtet för personal med lämplig kompetens.
- 3.6 Innan du ingriper på utrustningen för att genomföra något arbete måste du se till så att du befinner dig i säkra atmosfäriska förhållanden.
För arbeten av elektrisk natur, förutom att du alltid måste koppla bort strömmen, vänta 30 sekunder för att ladda ur de interna kondensatorerna innan du öppnar. Avsluta arbetet, stäng enheten igen för att återställa skyddsgraden innan du matar den.
- 3.7 Vid avvikelser i funktion som inte enbart beror på säkringen, koppla direkt bort spänningen på enheten och kontakta leverantören.
- 3.8 En gång i månaden, eller oftare vid behov, kontrollera om det finns damm i behållaren och ta eventuellt bort det med en fuktig trasa.
- 3.9 Följ gällande bestämmelser för matningsspänning, kablage och spänning som kan appliceras på reläkontakterna.
- 3.10 För alla ingångsstyrtsignaler (D1a, D5, D6, ...) använd flamsäkra kablar med ett avsnitt på minst 0,5 mm².
- 3.11 För att ansluta matningsspänningen och magnetventiler för att rengöra filtret, använd flamsäkra kablar med ett avsnitt på minst 0,75 mm². För reläkontakter till signalering, använd flamsäkra kablar med ett avsnitt på 1,5 mm².
- 3.12 För signalen 4+20 mA i utgången, använd en flamsäker avskärmd kabel med ett avsnitt på minst 0,5 mm² (Alternativ på begäran. Kod: C11a)
- 3.13 Jorda inte vanliga magnetventiler (se kopplingschema).
- 3.14 Nonchalering av gällande bestämmelser eller installations- och säkerhetsbestämmelserna befriar tillverkaren från ansvar.



En felaktig anslutning av matningsspänningen kan ohjälpligt skada enheten.
Säkringen skyddar endast mot eventuella kortslutningar och inte nödvändigtvis mot felaktig matning.

3.1 INSTALLATIE- EN BEVEILIGINGSNORMEN (NL)

- 3.2 Bescherm de apparatuur tegen directe blootstelling aan zonlicht.
- 3.3 Plaats de apparatuur uit de buurt van warmtebronnen en elektromagnetische velden.
Sluit de apparatuur aan op andere stroomaansluitpunten dan die gebruikt worden voor het aandrijven van motoren of apparatuur die veel vermogen vragen die voor storingen in de stroomtoevoer kunnen zorgen.
- 3.4 Plaats de apparatuur op minstens 60 cm van de vloer.
- 3.5 De toegang tot de apparatuur voor het instellen van de parameters dient uitgevoerd te worden door bevoegd personeel.
- 3.6 Controleer alvorens enige werkzaamheid te voeren aan de apparatuur of de atmosferische omstandigheden veilig zijn. Wacht bij werkzaamheden van elektrische aard buiten het verwijderen van de spanning nog eens 30 seconden zodat de interne condensatoren zich kunnen ontladen alvorens de apparatuur te openen. Sluit na he uitvoeren van de werkzaamheden de apparatuur weer voor volledige bescherming voordat de spanning er weer op wordt gezet.
- 3.7 Vertrouw bij storingen niet alleen op de beveiliging en haal direct de spanning van de apparatuur af en neem contact op met de leverancier.
- 3.8 Controleer een keer per maand of vaker als dat nodig is of er stof op het reservoir zit en verwijder dit eventueel met een vochtige doek.
- 3.9 Zorg dat voor de stroomtoevoer de snoeren en de geldende spanningen die van toepassing zijn op de relaiscontacten voldoen aan de geldende normen.
- 3.10 Gebruik voor alle controlesignalen bij de toevoer (D1a, D5, D6, ...) anti-ontbrandingskabels met een minimaal oppervlak van 0,5 mm².
- 3.11 Gebruik voor het aansluiten op de stroomtoevoer en de elektromagnetische kleppen voor het reinigen van het filter anti-ontbrandingskabels met een minimaal oppervlak van 0,75 mm². Gebruik voor relaiscontacten voor de signalering anti-ontbrandingskabels met een minimaal oppervlak van 1,5 mm².
- 3.12 Gebruik voor de signalering 4+20 mA bij uitvoer een afgeschermde anti-ontbrandingskabel met een minimaal oppervlak van 0,5 mm² (Optie op verzoek. Code: C11a)
- 3.13 De algemene elektromagnetische klep niet aarden (zie elektriciteitsoverzicht).
- 3.14 Het niet toepassen van de geldende normen en de installatie- en veiligheidsnormen ontslaat de fabrikant van elke verantwoordelijkheid.



Een verkeerde stroomaansluiting kan de apparatuur zodanig beschadigen dat deze niet meer gerepareerd kan worden.
De zekering beschermt alleen tegen eventuele kortsluiting en niet tegen verkeerde stroomspanning.

3.1 ПРАВИЛА ЗА БЕЗОПАСНОСТ ПРИ МОНТАЖА (BG)

- 3.2 Изберете мястото на монтаж на уреда, така че да е защитен от директна слънчева светлина.
- 3.3 Не монтирайте устройството в близост или върху източник на топлина и/или електромагнитно излъчване. Свържете уреда към токов кръг, отделен от други машини или уреди, които биха могли да причинят смущения в мрежата.
- 3.4 Монтирайте уреда на стена и на разстояние от пода, не по-малко от 60 см.
- 3.5 Достъпът и настройването на работните параметри на уреда, трябва да се извършва единствено и само от персонал с необходимите знания и умения.
- 3.6 Преди извършване на каквато и да била дейност по поддръжка на уреда, уверете се, че са спазени условията за безопасност. За работа по ел. вериги на уреда, изключете захранващото напрежение и изчакайте 30 секунди (за разреждане на кондензаторите) преди да отворите капака на уреда. При приключване на работите, затворете плътно капака на уреда (за да възстановите степента му на защита) и едва тогава, възстановете ел. захранването му.
- 3.7 В случай на дефект, при който смяната на ел. предпазител с нов не решава проблема, веднага изключете захранващото напрежение и се свържете с доставчика или оторизирания сервиз.
- 3.8 Най-малко един път в месеца или по-често, ако е необходимо, проверявайте дали има прах върху корпуса на устройството. В случай, че такъв е наличен, премахнете го като използвате влажна кърпа.
- 3.9 За захранващи напрежения и окабеляване, приложими към релейните контакти, следвайте следните правила:
- 3.10 За всички входни управляващи сигнали на устройството (D1a, D5, D6, ...), използвайте негорими ел. проводници със сечение не по-малко от 0,5 mm².
- 3.11 За свързване на захранващото напрежение и ел. магнитните вентили, използвайте негорими ел. проводници със сечение не по-малко от 0,75 mm². За изходящите релейни контакти, използвайте негорими ел. проводници със сечение не по-малко от 1,5 mm².
- 3.12 За изходящия сигнал 4 + 20 mA, използвайте негорим екраниран ел. проводник със сечение не по-малко от 0,5 mm². (опция - код за поръчка: C11a).
- 3.13 Не свързвайте общия проводник на ел. магнитните вентили към заземителна клема (виж електрическата схема на свързване).
- 3.14 Неспазването на настоящите правила и/или действащите местни норми и мерки за безопасност при инсталиране, освобождава производителя и неговия дистрибутор от отговорност.



Прилагането на погрешно захранващо напрежение, може да причини непоправими щети на устройството. Вграденият електрически предпазител, защитава уреда само от късо съединение, а не непременно от грешно захранващо напрежение.

3.1 REGRAS DE INSTALAÇÃO E SEGURANÇA (P)

- 3.2 Proteger o dispositivo da exposição direta ao sol.
- 3.3 Evitar arranjar o dispositivo na proximidade de ou em contacto direto com qualquer fonte de calor e campo magnético. Conectar o dispositivo a linhas de alimentação diferentes das utilizadas para acionamentos de motor ou outros dispositivos que possam causar ruído na rede.
Não é equipamento de segurança.
- 3.4 Reparar o dispositivo na parede no mínimo a 60 cm do chão.
- 3.5 O acesso ao dispositivo para ajustar os parâmetros de funcionamento tem de ser executado por um profissional competente.
- 3.6 Antes de proceder a qualquer tipo de operação no dispositivo, verifique se há condições de segurança. Para operações elétricas nunca esquecer de desconectar a alimentação, esperar 30 segundos para descarga dos condensadores internos antes da abertura. No final das operações fechar o dispositivo para restaurar o grau de proteção antes de o ligar novamente.
- 3.7 Em caso de defeito que não dependa apenas dos fusíveis, desligar imediatamente a alimentação e contactar o fornecedor.
- 3.8 Uma vez por mês, ou mais frequentemente se necessário, verificar se há poeira no revestimento do dispositivo e caso haja limpar com um pano húmido.
- 3.9 Para tensões de alimentação, cableamento e tensões aplicáveis aos contactos de relé, seguir as regras atuais.
- 3.10 Para todos os sinais de controlo de entrada para o dispositivo (D1a, D5, D6,...) utilizar cabos antideflagrantes com uma secção mínima de 0,5 mm².
- 3.11 Para a conexão elétrica da tensão de alimentação e eletroválvulas de despoeiramento utilizar cabos antideflagrantes com uma secção mínima de 0,75 mm². Para contactos de relé de saída utilizar cabos antideflagrantes com uma secção mínima de 1,5 mm².
- 3.12 Para o sinal de saída 4+20 mA utilizar cabo blindado antideflagrante com uma secção mínima de 0,5 mm². (Opção sob encomenda. Código: C11a)
- 3.13 Não conectar o comum das eletroválvulas à terra (ver diagrama da cablagem elétrica).
- 3.14 O incumprimento das regras existentes e normas de instalação e segurança exoneram a responsabilidade do fabricante



Uma conexão de tensão de alimentação errada pode causar danos irreparáveis no dispositivo.
O fusível protege apenas dos curto-circuitos e não necessariamente de tensão de alimentação errada.