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## INDEX

### DIFFERENTIAL PRESSURE CONTROL FOR NOT CLASSIFIED AREA

- Display 3 digit: BPB
- Display 5 Digit: DPC
- LCD alphanumeric display, 32 characters, multilanguage. Only electronic board: LDPC
- LCD alphanumeric display, 32 characters, multilanguage: LPC
- Differential pressure transducer, output 4 - 20 mA: TP10
- Pressure transducer with contact: TP30

### DUST EMISSION CONTROL FOR NOT CLASSIFIED AREA

- Display 5 Digit: DTC
- LCD alphanumeric display, 32 characters, multilanguage, dP control and dust control: DTP
- Tribo check probe, output 4—20 mA: TC50
- Tribo check probe, output relais: TC50R
- Tribo check probe, output 4—20 mA with stell wire: TC50F

### PRESSURE STABILIZER FOR NOT CLASSIFIED AREA

- LCD alphanumeric display, 32 characters, multilanguage: DFC, LFC, LFM

### BUS-SYSTEM WITH DIGITAL DIFFERENTIAL PRESSURE CONTROL FOR NOT CLASSIFIED AREA

- Display 3 digit: BE
- LCD alphanumeric display, 32 characters, multilanguage: LE, LM
- LCD alphanumeric display, 32 characters, multilanguage: DSA

### BUS-SYSTEM WITHOUT DIGITAL DIFFERENTIAL PRESSURE CONTROL FOR NOT CLASSIFIED AREA

- LCD alphanumeric display, 32 characters, multilanguage: GE, GM
- Display 3 digit: PE
- LCD alphanumeric display, 32 characters, multilanguage: RE

### BUS-SYSTEM MASTER UNIT WITHOUT DIFFERENTIAL PRESSURE CONTROL FOR NOT CLASSIFIED AREA

- Set by Dip-switch: RU-BA, RU-CA

### BUS-SYSTEM REMOTE UNIT FOR NOT CLASSIFIED AREA

- Operating in sequence of RU-BA: RU-BB
- Operating in sequence of RU-CA, With pilots: RU-CB
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

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

STANDARD FEATURES

- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Air connections 6x4 RILSAN pipe
- Differential pressure digital control
- Differential pressure readout from internal transducer (max 10 kPa)
- Additional cycles after fan stop with fan mode selection.
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- ON/OFF Cleaning cycle from external contact.
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage 230 VAC / 115 VAC
- 24 VAC / 24 VDC
- Operating temperature: -10 °C ÷ +50 °C
- No. Outputs: 16 Solenoid valves Max
- Power requirement: 10 VA (Stand-by)
- 30 VA Max ev. ON
- Protection degree: IP65
- Material: ABS
dP Control: With internal trasducer
Air connection P1 - P2: 6x4 RILSAN pipe
Terminals: 2.5 mm² - 250 VAC / 12 A

Electronic Control System for dust collectors

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- Other Enclosures available on request.

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<tr>
<td></td>
<td>24 VAC / 24 VDC</td>
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<tr>
<td>Operating temperature</td>
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<tr>
<td>No. Outputs</td>
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<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
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<tr>
<td>Air connection P1 - P2</td>
<td>6x4 RILSAN pipe</td>
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<tr>
<td>Terminals</td>
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- Input / Output voltage selection.

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- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Digital differential pressure control (STOP at cycle end)
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF Cleaning cycle from external contact.
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST

- 4-20 mA output signal of dP readout
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- Other Enclosures available on request.

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<td>Air connection P1 - P2</td>
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<td>2,5 mm² - 250 VAC / 12 A</td>
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SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

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

STANDARD FEATURES

- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Digital differential pressure control (STOP at cycle end)
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF Cleaning cycle from external contact.
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q ty on request.
- Other Enclosures available on request.

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

**STANDARD FEATURES**
- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
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- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
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- Operation hours-counter
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- Maximum load power 25W per output
- Input and output voltage selection

**OPTION ON REQUEST**
- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

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- dP zero readout regulation
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- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
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- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

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- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 230 VAC / 115 VAC
- Operating temperature: -10 °C ÷ +50 °C
- No. Outputs: 48 Solenoid valves Max
- Power requirement: 10 VA (Stand-by)
- Protection degree: IP55
- Material: Metallic
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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SEQUNCE FOR DEDUSTING PLANTS

DESCRIPTION

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

STANDARD FEATURES

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES

Standard supply voltage: 230 VAC / 115 VAC
Supply voltage on request: 24 VAC / 24 VDC
Solenoid valves voltage 230 VAC / 115 VAC
- 24 VAC / 24 VDC
Operating temperature -10 °C + + 50 °C
No. Outputs 96 Solenoid valves Max
Power requirement 10 VA (Stand-by)
- 30 VA Max ev. ON
Protection degree IP55
Material Metallic
dP Control With internal trasducer
Air connection P1 - P2 6x4 RILSAN pipe
Terminals 2,5 mm² - 250 VAC / 12 A

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Electronic Control System for dust collectors

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Phone ++39 02 972 89 899 Fax ++39 02 972 89 270
Sequencer for dedusting plants cleaning cycle control with digital dP control by internal transducer.

**STANDARD FEATURES**

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
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- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

**TECHNICAL FEATURES**

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage 230 VAC / 115 VAC
- Operating temperature - 10 °C + + 50 °C
- No. Outputs 16 Solenoid valves Max
- Power requirement 10 VA (Stand-by)
- 30 VA Max ev. ON
- Protection degree IP65
- Material ABS
- dP Control With internal trasducer
- Air connection P1 - P2 6x4 RILSAN pipe
- Terminals 2,5 mm² - 250 VAC / 12 A

**OPTION ON REQUEST**

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
SEQUENCER FOR DEDUSTING PLANTS

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

STANDARD FEATURES
- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST
- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES
- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 230 VAC / 115 VAC
- Operating temperature: - 10 °C + + 50 °C
- No. Outputs: 32 Solenoid valves Max
- Power requirement: 10 VA (Stand-by)
- Protection degree: IP55
- Material: ABS
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

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SEQUENCER FOR DEDUSTING PLANTS

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

STANDARD FEATURES
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- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
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- Relay Voltage ON (K1)
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- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST
- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES
- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage 230 VAC / 115 VAC
- Operating temperature - 10 °C + + 50 °C
- No. Outputs 48 Solenoid valves Max
- Power requirement 10 VA (Stand-by)
- Protection degree IP55
- Material Metallic
- dP Control With internal trasducer
- Air connection P1 - P2 6x4 RILSAN pipe
- Terminals 2,5 mm² - 250 VAC / 12 A

Electronic Control System for dust collectors

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ESA Electronic Engineering s.r.l.
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

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

STANDARD FEATURES

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES

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<td>Solenoid valves voltage</td>
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<td>2,5 mm² - 250 VAC / 12 A</td>
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ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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Phone ++39 02 972 89 899      Fax ++39 02 972 89 270
DC192  SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

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

STANDARD FEATURES

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

TECHNICAL FEATURES

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<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<td>Supply voltage on request</td>
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<td>Solenoid valves voltage</td>
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<td>Protection degree</td>
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<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
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</table>

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SEQUENCER FOR DEDUSTING PLANTS

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

STANDARD FEATURES
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Air connections 6x4 RILSAN pipe
- Differential pressure digital control
- Differential pressure readout from internal transducer (max 10 kPa)
- Additional cycles after fan stop with fan mode selection.
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- ON/OFF Cleaning cycle from external contact.
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST
- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Precoating
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES
- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 24 VDC
- Operating temperature: -10 °C + + 50 °C
- Number electropilots: 8 Max
- Power requirement: 10 VA (Stand-by)
- Protection degree: IP65
- Material: ABS
- dP Control: With internal trasducer
- 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

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

STANDARD FEATURES

- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Air connections 6x4 RILSAN pipe
- Differential pressure digital control
- Differential pressure readout from internal transducer (max 10 kPa)
- Additional cycles after fan stop with fan mode selection.
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- ON/OFF Cleaning cycle from external contact.
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Precoating
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

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<th>Specification</th>
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<tr>
<td>Standard supply voltage:</td>
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<td>Solenoid valves voltage:</td>
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<td>dP Control</td>
<td>With internal trasducer</td>
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<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
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SEQUENCER FOR DEDUSTING PLANTS

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

STANDARD FEATURES
✓ Minimum and maximum dP alarms on same relay (K2)
✓ Digital differential pressure control (STOP at cycle end)
✓ dP zero readout regulation
✓ dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
✓ Air connections 6x4 RILSAN pipe
✓ Additional post-cleaning cycles from dP readout. Activation at STOP.
✓ Cleaning cycle
✓ Automatic operation mode
✓ Manual operation mode
✓ Activation time from 0.05 to 5.00 sec.
✓ Interval time from 1 to 999 sec.
✓ Interval time between ev. during post-cleaning
✓ Alarm relay contacts open
✓ Select Number of outputs
✓ Operation hours-counter
✓ Manual activation of every single output from keyboard
✓ Maximum load power 25W per output
✓ Multi language display

OPTION ON REQUEST
✓ 4÷20 mA output signal of dP readout
✓ Minimum (K1) and maximum (K2) dP alarms on separate relays
✓ Precoating
✓ Keypad lock

TECHNICAL FEATURES

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<td>Solenoid valves voltage</td>
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<td>Air connection P1 - P2</td>
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<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
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</table>

Electronic Control System for dust collectors

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Phone +39 02 972 89 899  Fax +39 02 972 89 270
**DESCRIPTION**

Sequencer for dedusting plant cleaning cycle control with digital dP control by internal transducer.
Electronic board without housing. Ideal for mounting on the front panel.

**STANDARD FEATURES**

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

**OPTION ON REQUEST**

- 4÷20 mA output signal of dP readout

**APPLICATION EXAMPLE**

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**TECHNICAL FEATURES**

<table>
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<th>Value</th>
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<td>Solenoid valves voltage</td>
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<td>No. Outputs</td>
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<td>30 VA Max ev. ON</td>
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<td>dP Control</td>
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<td>Air connection P1 - P2</td>
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<tr>
<td>Terminals</td>
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DESCRIPTION

Sequencer for dedusting plant cleaning cycle control with digital dP control by internal transducer.
Electronic board without housing. Ideal for mounting on the front panel.

STANDARD FEATURES

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Alarm relay contacts open
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout

TECHNICAL FEATURES

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<td>24 VAC / 24 VDC</td>
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<td>dP Control</td>
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<td>230 VAC / 115 VAC</td>
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<td>Air connection P1 - P2</td>
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<td>24 VAC / 24 VDC</td>
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<td>24 VAC / 24 VDC</td>
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APPLICATION EXAMPLE
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP control with electropilots.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Relay Voltage ON (K1)
- ON/OFF Cleaning cycle from external contact.
- Additional cycles after fan stop
- ON/OFF cleaning cycle from external pressure switch
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Qtty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Standard supply voltage</td>
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<td>Solenoid valves voltage</td>
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<td>10 VA (Stand-by)</td>
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<td>IP65</td>
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<td>ABS</td>
</tr>
<tr>
<td>Terminals</td>
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ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

info@esaelectronic.it  www.esaelectronic.it
Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP control with electropilots.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Relay Voltage ON (K1)
- ON/OFF Cleaning cycle from external contact.
- Additional cycles after fan stop
- ON/OFF cleaning cycle from external pressure switch
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

| Standard supply voltage:          | 230 VAC / 115 VAC |
| Supply voltage on request:        | 24 VAC / 24 VDC   |
| Solenoid valves voltage           | 24 VDC           |
| Operating temperature             | -10 °C + + 50 °C  |
| Number electropilots              | 16 Max           |
| Power requirement                 | 10 VA (Stand-by) |
| Protection degree                 | IP65             |
| Material                          | ABS              |
| Terminals                         | 2,5 mm² - 250 VAC / 12 A |

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SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Cleaning cycle
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Additional cycles from voltfree contact. ALWAYS enabled.
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Select Number of outputs
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- Keypad lock

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 230 VAC / 115 VAC
- Operating temperature: -10 °C + + 50 °C
- No. Outputs: 12 Solenoid valves Max
- Power requirement: 10 VA (Stand-by) 30 VA Max ev. ON
- Protection degree: IP20
- Material: Aluminium
- Terminals: 2,5 mm² - 250 VAC / 12 A

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Electronic Control System for dust collectors

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.
Electronic board without housing. Ideal for mounting on the front panel.

STANDARD FEATURES

- Cleaning cycle
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- Select Number of outputs
- Input activation from external contacts
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

OPTION ON REQUEST

- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

TECHNICAL FEATURES

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<th>Specification</th>
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<td>24 VAC / 24 VDC</td>
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<td>No. Outputs</td>
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APPLICATION EXAMPLE

Electronic Control System for dust collectors

info@esaelectronic.it  www.esaelectronic.it
Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
**LSC96 SEQUENCER FOR DEDUSTING PLANTS**

**DESCRIPTION**

Sequencer for dedusting plant cleaning cycle control without digital dP.
Electronic board without housing. Ideal for mounting on the front panel.

**STANDARD FEATURES**

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Cleaning cycle
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Short-circuit protection of every single output
- Input activation from external contacts
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

**OPTION ON REQUEST**

- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

**TECHNICAL FEATURES**

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<th>Solenoid valves voltage</th>
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<td>No. Outputs</td>
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<td>30 VA Max ev. ON</td>
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<tr>
<td>Terminals:</td>
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**APPLICATION EXAMPLE**

[Diagram of application example]

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**ESA Electronic Engineering s.r.l.**
Electronic Control System for dust collectors

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Relay Voltage ON (K1)
- Autoselection of the number of the output
- Pulse time for each valve from 50 to 1000 ms.
- Interval time between two activation from 1 to 120 s.
- ON/OFF cleaning cycle from external pressure switch
- Additional cycles after fan stop
- Maximum load power 25W per output
- Input / Output voltage selection.

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

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<tr>
<td>Operating temperature</td>
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<tr>
<td>No. Outputs</td>
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www.eseaelectroni.it
Phone ++39 02 972 89 899
Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

✓ Relay Voltage ON (K1)
✓ Autoselection of the number of the output
✓ Pulse time for each valve from 50 to 1000 ms.
✓ Interval time between two activation from 1 to 120 s.
✓ ON/OFF cleaning cycle from external pressure switch
✓ Additional cycles after fan stop
✓ Maximum load power 25W per output
✓ Input / Output voltage selection.

OPTION ON REQUEST

✓ Metric Cable Glands. Type and Q.ty on request.
✓ Other Enclosures available on request.
✓ Relay K1 Cycle ON / OFF contact. Closed with active cycle
✓ Tropicalisation of the Printed Circuit

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DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- ON/OFF Cleaning cycle from external contact.
- ON/OFF cleaning cycle from external pressure switch
- Additional cycles after fan stop
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST

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DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

☑ Activation time from 0.05 to 5.00 sec.
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☑ ON/OFF Cleaning cycle from external contact.
☑ ON/OFF cleaning cycle from external pressure switch
☑ Additional cycles after fan stop
☑ Select Number of outputs
☑ Short-circuit protection of every single output
☑ Manual activation of every single output from keyboard
☑ Maximum load power 25W per output
☑ Input activation from external contacts
☑ Input / Output voltage selection.

OPTION ON REQUEST

☑ Metric Cable Glands. Type and Q.ty on request.
☑ Other Enclosures available on request.
☑ Relay K1 Cycle ON / OFF contact. Closed with active cycle
☑ Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

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<td>24 VAC / 24 VDC</td>
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<tr>
<td>Operating temperature</td>
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<tr>
<td>No. Outputs</td>
<td>16 Solenoid valves Max</td>
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Electronic Control System for dust collectors

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SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION
Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- ON/OFF Cleaning cycle from external contact.
- ON/OFF cleaning cycle from external pressure switch
- Additional cycles after fan stop
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

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- ON/OFF cleaning cycle from external pressure switch
- Additional cycles after fan stop
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

✓ Activation time from 0.05 to 5.00 sec.
✓ Interval time from 1 to 999 sec.
✓ Relay Voltage ON (K1)
✓ ON/OFF Cleaning cycle from external contact.
✓ Additional cycles after fan stop
✓ ON/OFF cleaning cycle from external pressure switch
✓ Select Number of outputs
✓ Short-circuit protection of every single output
✓ Manual activation of every single output from keyboard
✓ Maximum load power 25W per output
✓ Input activation from external contacts
✓ Input / Output voltage selection.

OPTION ON REQUEST

✓ Metric Cable Glands. Type and Q.ty on request.
✓ Other Enclosures available on request.
✓ Relay K1 Cycle ON / OFF contact. Closed with active cycle
✓ Tropicalisation of the Printed Circuit
✓ Keypad lock

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th></th>
<th>230 VAC / 115 VAC</th>
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<tbody>
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<tr>
<td>Supply voltage on request:</td>
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<tr>
<td>Solenoid valves voltage</td>
<td>230 VAC / 115 VAC</td>
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<tr>
<td></td>
<td>24 VAC / 24 VDC</td>
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<tr>
<td>Operating temperature</td>
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<tr>
<td>No. Outputs</td>
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<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
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<td>IP65</td>
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<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
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</table>
PC36  SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Relay Voltage ON (K1)
- ON/OFF Cleaning cycle from external contact.
- Additional cycles after fan stop
- ON/OFF cleaning cycle from external pressure switch
- Select Number of outputs
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input activation from external contacts
- Input / Output voltage selection.

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- Keypad lock

TECHNICAL FEATURES

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<tr>
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<tr>
<td>Solenoid valves voltage</td>
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<td>No. Outputs</td>
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<td>Power requirement</td>
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<td>Protection degree</td>
<td>IP65</td>
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<tr>
<td>Material</td>
<td>PS Thermoplastish</td>
</tr>
<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
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</table>

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

info@esaelectronic.it  www.esaelectronic.it
Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION
Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES
- Cleaning cycle
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- Select Number of outputs
- Input activation from external contacts
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

OPTION ON REQUEST
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

TECHNICAL FEATURES
| Standard supply voltage: | 230 VAC / 115 VAC |
| Supply voltage on request: | 24 VAC / 24 VDC |
| Solenoid valves voltage | 230 VAC / 115 VAC |
| | 24 VAC / 24 VDC |
| Operating temperature | -10 °C ÷ +50 °C |
| No. Outputs | 16 Solenoid valves Max |
| Power requirement | 10 VA (Stand-by) |
| | 30 VA Max ev. ON |
| Protection degree | IP55 |
| Material | ABS |
| Terminals | 2.5 mm² - 250 VAC / 12 A |

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

**DESCRIPTION**

Sequencer for dedusting plant cleaning cycle control without digital dP.

**STANDARD FEATURES**

- Cleaning cycle
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- Select Number of outputs
- Input activation from external contacts
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

**OPTION ON REQUEST**

- Metric Cable Glands. Type and Q.ty on request.
- Other Endclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

**TECHNICAL FEATURES**

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<th>Standard supply voltage:</th>
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</tr>
</thead>
<tbody>
<tr>
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<tr>
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<tr>
<td></td>
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<tr>
<td>Operating temperature</td>
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<tr>
<td>No. Outputs</td>
<td>32 Solenoid valves Max</td>
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<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
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<td>30 VA Max ev. ON</td>
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<tr>
<td>Protection degree</td>
<td>IP55</td>
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<td>Material</td>
<td>ABS</td>
</tr>
<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

**Electronic Control System for dust collectors**

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

✓ Cleaning cycle
✓ Activation time from 0.05 to 5.00 sec.
✓ Interval time from 1 to 999 sec.
✓ Interval time between ev. during post-cleaning
✓ Relay Voltage ON (K1)
✓ ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
✓ ON/OFF cleaning cycle from external contact
✓ Additional cycles from voltfree contact. ALWAYS enabled.
✓ Select Number of outputs
✓ Input activation from external contacts
✓ Short-circuit protection of every single output
✓ Operation hours-counter
✓ Manual activation of every single output from keyboard
✓ Maximum load power 25W per output
✓ Input and output voltage selection

OPTION ON REQUEST

✓ Metric Cable Glands. Type and Q.ty on request.
✓ Other Enclosures available on request.
✓ Relay K1 Cycle ON / OFF contact. Closed with active cycle
✓ Tropicalisation of the Printed Circuit
✓ 4÷20 mA output signal of TC probe readout
✓ Keypad lock

TECHNICAL FEATURES

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<td>Standard supply voltage</td>
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<td>No. Outputs</td>
<td>48 Solenoid valves Max</td>
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<td>30 VA Max ev. ON</td>
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<tr>
<td>Protection degree</td>
<td>IP55</td>
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<td>Material</td>
<td>Metallic</td>
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<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
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Electronic Control System for dust collectors

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
**DESCRIPTION**

Sequencer for dedusting plant cleaning cycle control without digital dP.

**STANDARD FEATURES**

- Cleaning cycle
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- Select Number of outputs
- Input activation from external contacts
- Short-circuit protection of every single output
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Input and output voltage selection

**OPTION ON REQUEST**

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

**TECHNICAL FEATURES**

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<tr>
<th>Feature</th>
<th>Value</th>
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<tr>
<td>Standard supply voltage</td>
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<tr>
<td>Supply voltage on request</td>
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<td>Solenoid valves voltage</td>
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<tr>
<td>No. Outputs</td>
<td>96 Solenoid valves Max</td>
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<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
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<tr>
<td>Protection degree</td>
<td>IP55</td>
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<td>Material</td>
<td>Metallic</td>
</tr>
<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

**Electronic Control System for dust collectors**

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SC16 SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Cleaning cycle
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Short-circuit protection of every single output
- Input activation from external contacts
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

TECHNICAL FEATURES

<table>
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<th>Standard supply voltage:</th>
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<td>Supply voltage on request:</td>
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<tr>
<td>Solenoid valves voltage</td>
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<td>24 VAC / 24 VDC</td>
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<tr>
<td>No. Outputs</td>
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<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
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Electronic Control System for dust collectors

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Cleaning cycle
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Short-circuit protection of every single output
- Input activation from external contacts
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

TECHNICAL FEATURES

| Standard supply voltage:          | 230 VAC / 115 VAC |
| Supply voltage on request:        | 24 VAC / 24 VDC   |
| Solenoid valves voltage           | 230 VAC / 115 VAC |
|                                   | 24 VAC / 24 VDC   |
| Operating temperature             | -10 °C + + 50 °C  |
| No. Outputs                       | 32 Solenoid valves Max |
| Power requirement                 | 10 VA (Stand-by)  |
|                                   | 30 VA Max ev. ON  |
| Protection degree                 | IP55              |
| Material                          | ABS               |
| Terminals                         | 2.5 mm² - 250 VAC / 12 A |

Electronic Control System for dust collectors
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Cleaning cycle
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Short-circuit protection of every single output
- Input activation from external contacts
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Qnty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

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<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
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ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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Phone ++39 02 972 89 889 Fax ++39 02 972 89 270
**DESCRIPTION**

Sequencer for dedusting plant cleaning cycle control without digital dP.

**STANDARD FEATURES**

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Cleaning cycle
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Short-circuit protection of every single output
- Input activation from external contacts
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

**OPTION ON REQUEST**

- Metric Cable Glands. Type and Q.ty on request.
- Other Endlosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

**TECHNICAL FEATURES**

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<td>Solenoid valves voltage</td>
<td>230 VAC / 115 VAC</td>
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<td></td>
<td>24 VAC / 24 VDC</td>
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<tr>
<td>Operating temperature</td>
<td>-10 °C to +50 °C</td>
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<tr>
<td>No. Outputs</td>
<td>96 Solenoid valves Max</td>
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<td>2.5 mm² - 250 VAC / 12 A</td>
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SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

Sequencer for dedusting plant cleaning cycle control without digital dP.

STANDARD FEATURES

- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Cleaning cycle
- Relay Voltage ON (K1)
- ON/OFF cleaning cycle from external contact
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Short-circuit protection of every single output
- Input activation from external contacts
- Operation hours-counter
- Manual activation of every single output from keyboard
- Maximum load power 25W per output
- Multi language display
- Input and output voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Relay K1 Cycle ON / OFF contact. Closed with active cycle
- Tropicalisation of the Printed Circuit
- 4÷20 mA output signal of TC probe readout
- Keypad lock

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 230 VAC / 115 VAC
- Operating temperature: -10 °C + + 50 °C
- No. Outputs: 192 Solenoid valves Max
- Power requirement: 10 VA (Stand-by)
- Protection degree: IP55
- Material: Metallic
- Terminals: 2,5 mm² - 250 VAC / 12 A
DIGITAL DIFFERENTIAL PRESSURE

DESCRIPTION

Digital differential pressure controller between two points.

STANDARD FEATURES

- Differential pressure readout from internal transducer (max 10 kPa)
- Minimum (K2) and maximum (K1) dP alarms on separate relays
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- 4÷20 mA output signal of dP readout
- Air connections 6x4 RILSAN pipe
- Input voltage selection

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Tropicalisation of the Printed Circuit

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Operating temperature: -10 °C ÷ +50 °C
- Power requirement: < 5 VA
- Protection degree: IP65
- Material: ABS
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

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Electronic Control System for dust collectors

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
**DESCRIPTION**

Digital differential pressure controller between two points.

**STANDARD FEATURES**

- Minimum (K1) and maximum (K2) dP alarms on separate relays
- Differential pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- 4÷20 mA output signal of dP readout
- Operation hours-counter
- Air connections 6x4 RILSAN pipe
- Multi language display
- Input voltage selection

**OPTION ON REQUEST**

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Tropicalisation of the Printed Circuit
- RS485 serial line connection
- Keypad lock

**TECHNICAL FEATURES**

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<tr>
<td>Supply voltage on request</td>
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<td>Operating temperature</td>
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<td>Power requirement</td>
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<td>Protection degree</td>
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<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
</tr>
<tr>
<td>Air connection P1 - P2</td>
<td>6x4 RILSAN pipe</td>
</tr>
<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

**Electronic Control System for dust collectors**

info@esaelectric.it
Phone ++39 02 972 89 899
Fax ++39 02 972 89 270
Digital differential pressure controller between two points.
Electronic board without housing. Ideal for mounting on the front panel.

**STANDARD FEATURES**
- Minimum (K1) and maximum (K2) dP alarms on separate relays
- Differential pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- 4÷20 mA output signal of dP readout
- Operation hours-counter
- Air connections 6x4 RILSAN pipe
- Multi language display
- Input voltage selection

**OPTION ON REQUEST**
- Tropicalisation of the Printed Circuit
- RS485 serial line connection
- Keypad lock

**APPLICATION EXAMPLE**

**TECHNICAL FEATURES**
- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Operating temperature: - 10 °C + + 40 °C
- Power requirement: < 5 VA
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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Phone ++39 02 972 89 899    Fax ++39 02 972 89 270
**DIGITAL DIFFERENTIAL PRESSURE**

**DESCRIPTION**

Digital differential pressure controller between two points.

**STANDARD FEATURES**

- Minimum and maximum dP alarms on same relay (K2)
- Differential pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- 4÷20 mA output signal of dP readout
- Operation hours-counter
- Air connections 6x4 RILSAN pipe
- Multi language display
- Air connections 6x4 RILSAN pipe

**OPTION ON REQUEST**

- Tropicalisation of the Printed Circuit

**TECHNICAL FEATURES**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>Supply voltage on request</td>
<td>24 VAC / 24 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10 °C ÷ +50 °C</td>
</tr>
<tr>
<td>Power requirement</td>
<td>&lt; 5 VA</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP20</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminium</td>
</tr>
<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
</tr>
<tr>
<td>Air connection P1 - P2</td>
<td>6x4 RILSAN pipe</td>
</tr>
<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>
**DESCRIPTION**

Digital differential pressure controller between two points.

**STANDARD FEATURES**

- Minimum and maximum dP alarms on same relay (K2)
- Differential pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Operation hours-counter
- Air connections 6x4 RILSAN pipe
- Multi language display

**OPTION ON REQUEST**

- Tropicalisation of the Printed Circuit

**TECHNICAL FEATURES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
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<tr>
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<td>Power requirement</td>
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</tr>
<tr>
<td>Material</td>
<td>Aluminium</td>
</tr>
<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
</tr>
<tr>
<td>Air connection P1 - P2</td>
<td>6x4 RILSAN pipe</td>
</tr>
<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>
**LPM2 DIGITAL DIFFERENTIAL PRESSURE**

**DESCRIPTION**
Digital differential pressure controller between two points.

**STANDARD FEATURES**
- Minimum and maximum dP alarms on same open collector output
- Differential pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Operation hours-counter
- Air connections 6x4 RILSAN pipe
- Multi language display

**OPTION ON REQUEST**
- Tropicalisation of the Printed Circuit

**TECHNICAL FEATURES**
- Standard supply voltage: 24 VDC
- Operating temperature: -10 °C ÷ + 50 °C
- Power requirement: < 5 VA
- Protection degree: IP20
- Material: Aluminium
- dP Control: With internal transducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

**Electronic Control System for dust collectors**

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Phone +39 02 972 89 899 Fax +39 02 972 89 270
TP10 DIFFERENTIAL PRESSURE TRANSDUCER

DESCRIPTION
TP10 is a differential pressure transducer used to be connected to various instruments, PLC or ESA sequencer with dP digital control and dP reader.

When the distance between the pneumatic signal plugs and the equipment is very long, it is advisable to install the TP10 near the connections of the pneumatic signal and move the 4÷20mA electric signal far from it.

The metallic housing made of aluminium, allows its use also in a degraded environment.

The standard output is a 2-wire 4+20 mA output therefore the use of this kind of transducer is envisaged as instrument generating the power supply voltage.

STANDARD FEATURES
- Air connections 6x4 RILSAN pipe
- M16 Cable gland

OPTION ON REQUEST
- dP full range 1 kPa
- dP full range 3 kPa
- dP full range 5 kPa
- dP full range 7 kPa
- Other units of measurement (mbar, mmH2O, inchH2O)
- Tropicalisation of the Printed Circuit
- Filtered connections

TECHNICAL FEATURES
- Supply Voltage: See wiring Diagram
- Max dP between P1 and P2: 0 ÷ 10 kPa
- Standard range (10 kPa): 0 ÷ 10 kPa
- Operating temperature: -10 °C ÷ +50 °C
- Linearity: ± 1 %
- Protection degree: IP65
- Material: Aluminium
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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TP30 DESCRIPTION

TP30 is a pressure transducer with contact. The switching point of the contact is adjustable by means of a knob within the regulation field indicated. The exit contact can be used as: NO, NC or SPDT. (See electrical connections on the next page).

In the standard application, TP30 is used in connection with sequencers of our range which control the solenoid valves with option D5a and/or B6-TP30 (option on demand) for PRESSURE CONTROL IN THE TANK and SOLENOID VALVE OPENING.

TYPE OF FAILURE DETECTED BY TP30

1. Electric failure (stop of the electric circuit from the sequencer to the solenoid valve, lack of electric impulse control from the sequencer)
2. Mechanical failure (any obstacle of the solenoid valve opening as for example frost, rust on mechanical parts of the solenoid valve.
3. Pneumatic failure (solenoid valve’s membrane broken, air tube damaged, blocked or faulty. Lack of compressed air).

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Pressure</td>
<td>20 bar</td>
</tr>
<tr>
<td>Adjustment range</td>
<td>0.5 ÷ 8 bar</td>
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<tr>
<td>Operating temperature</td>
<td>-10 °C ÷ +80 °C</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP65</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>DIN 436650</td>
</tr>
</tbody>
</table>

SOLENOID OPENING TEST

This application allows to check if the activation of the solenoid driven by the sequencer has occurred. When a solenoid is activated in the tank of the compressed air connected to it, a drop of pressure happens. This drop switches the contact of TP30 sending the information to the sequencer that controls the solenoids.

Comparing the impulse generated by TP30 with the one of the solenoid activation, it is possible to establish with certainty the real solenoid valve’s opening.

If TP30 does not send the reply that the shot happened after the solenoid valve command, the sequencer activates a double alarm:

a) Visual with the detection of the number of the faulty solenoid valve.
b) Relay alarm with contact available in terminals.

The continuous monitoring of the blowing system allows the immediate detection of faulty solenoid valves as written above.

For further details see option B6-TP30 description attached to the USER MANUAL of the sequencer.
DUST EMISSIONS MONITORING

DESCRIPTION

Device designed to show and check the signal from Tribo-Electric probe to measure the quantity of dust in a duct with gas.

STANDARD FEATURES

✓ Emission control by TRIBO-CHECK probe.
✓ High emission pre-alarm threshold. Contact open with alarm. Automatic reset.
✓ High emission alarm threshold. Contact open with alarm. Automatic reset
✓ TC probe readout zero regulation (-9÷+9 points)
✓ Emission readout setup in mg/m³
✓ TC probe signal readout in mA
✓ Multi language display

OPTION ON REQUEST

✓ Metric Cable Glands. Type and Q.ty on request.
✓ Other Enclosures available on request.
✓ Tropicalisation of the Printed Circuit
✓ Keypad lock

TECHNICAL FEATURES

Standard supply voltage: 230 VAC / 115 VAC
Supply voltage on request: 24 VAC / 24 VDC
Operating temperature: -10 °C + + 50 °C
Power requirement: < 5 VA
Protection degree: IP65
Material: ABS
Terminals: 2,5 mm² - 250 VAC / 12 A

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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Phone +39 02 972 89 899    Fax +39 02 972 89 270
DUST EMISSIONS MONITORING AND DIFFERENTIAL PRESSURE

DESCRIPTION

Device designed to show and check the signal from Tribo-Electric probe to measure the quantity of dust in a duct with gas. Digital differential pressure controller between two points.

STANDARD FEATURES

- Emission control by TRIBO-CHECK probe.
- TC probe readout zero regulation (-9÷+9 points)
- Emission readout setup in mg/m3
- TC probe signal readout in mA
- Multi language display
- Minimum and maximum dP alarms on same relay (K1)
- Differential pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Air connections 6x4 RILSAN pipe
- Operation hours-counter
- Input voltage selection
- Alarm relay contacts open

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Tropicalisation of the Printed Circuit
- Keypad lock

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
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<tr>
<td>Standard supply voltage</td>
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</tr>
<tr>
<td>Protection degree</td>
<td>IP65</td>
</tr>
<tr>
<td>Material</td>
<td>ABS</td>
</tr>
<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
</tr>
<tr>
<td>Air connection P1 - P2</td>
<td>6x4 RILSAN pipe</td>
</tr>
<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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Phone ++39 02 972 89 899  Fax ++39 02 972 89 270
DESCRIPTION

The need to signal in advance possible leakages of the dedusting system avoiding high costs of environmental reclamation and of plants stop-overs brought, since a long time, to the use of electronic equipments dedicated to a better environmental safeguard. With the use of these devices it is possible to signal any failure that can produce dangerous emissions in the atmosphere which are symptom of breakdown in the dedusting plant. Especially, it is possible to control any breaks of the filtering surfaces, broken bags or cartridges.

The use of TC probes allows therefore to identify the dust particles which are present in the gases that go through the filter due to any breaks or failures of the bags or cartridges where the quantities of dusts to remark are considerable 100÷400 mg.

For a correct functioning of the TC probe, the cartridges or the bags must be mounted in a vertical position.

The TC probe is seldom used for the continuous monitoring of the dustiness degree present in the discharge duct of the gases in the atmosphere.

The above-mentioned use entails a more complicated calibration and a deep knowledge of the device.

The TC probe notes the passage of particles which are present in the gases by turning this physical phenomenon into an electric signal 4÷20 mA proportional to the dustiness degree.

A rotary switch located inside the head of the probe (SW 21) allows to change the amplification of the exit signal in order to permit a correct use of the TC probe in the most part of the dedusting systems.

The output signal (4÷20 mA) can be adjusted to program the activation of any alarms when the dust emissions overtake the values which have been set according to the law restrictions.

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>16 ÷ 24 VDC / 100 mA</td>
</tr>
<tr>
<td>Output signal</td>
<td>4 ÷ 20 mA</td>
</tr>
<tr>
<td>GAS temperature</td>
<td>200 °C</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10 °C ÷ +50 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>80 %</td>
</tr>
<tr>
<td>Particle Size</td>
<td>&gt;= 0.3 µm</td>
</tr>
<tr>
<td>Rod length in mm. (*A)</td>
<td>500</td>
</tr>
<tr>
<td>Other length available (*A)</td>
<td>100, 150, 200, 250 mm</td>
</tr>
<tr>
<td></td>
<td>300, 350, 400, 500 mm</td>
</tr>
<tr>
<td></td>
<td>600, 800, 1000, 1500 mm</td>
</tr>
</tbody>
</table>

STANDARD FEATURES

- TC standard probe fastening bush
- Tropicalisation of the Printed Circuit
- Brass/nickel cable glands M20

OPTION ON REQUEST

- High-sensitivity TC probe
- GAS temperature 200°C with BS200 (On Request)
DESCRIPTION

The need to signal in advance possible leakages of the dedusting system avoiding high costs of environmental reclamation and of plants stop-overs brought, since a long time, to the use of electronic equipments dedicated to a better environmental safeguard. With the use of these devices it is possible to signal any failure that can produce dangerous emissions in the atmosphere which are symptom of breakdown in the dedusting plant. Especially, it is possible to control any breaks of the filtering surfaces, broken bags or cartridges.

The use of TC probes allows therefore to identify the dust particles which are present in the gases that go through the filter due to any breaks or failures of the bags or cartridges where the quantities of dusts to remark are considerable 100÷400 mg.

For a correct functioning of the TC probe, the cartridges or the bags must be mounted in a vertical position.

The TC probe is seldom used for the continuous monitoring of the dustiness degree present in the discharge duct of the gases in the atmosphere.

The above-mentioned use entails a more complicated calibration and a deep knowledge of the device.

The TC probe notes the passage of particles which are present in the gases by turning this physical phenomenon into an electric signal proportional to the dustiness degree.

By comparing the signal generated by TC with a threshold set by the rotary switch located inside the head of the probe (SW 21), it is possible to activate an alarm.

A relay output contact is available to manage the alarm.

TECHNICAL FEATURES

Supply Voltage 16 ÷ 24 VDC / 100 mA
Output signal Contact SPDT 1A / 40 V Max
GAS temperature 120°C with BS40 (Standard)
Operating temperature -10 °C ÷ + 50 °C
Relative humidity 80 %
Particle Size >= 0.3 µm
Rod length in mm. 500 (Standard)
Other length available (*A) 100, 150, 200, 250 mm
300, 350, 400, 500 mm
600, 800, 1000, 1500 mm

STANDARD FEATURES

- TC standard probe fastening bush
- Tropicalisation of the Printed Circuit
- Brass/nickel cable glands M20

OPTION ON REQUEST

- High-sensitivity TC probe
- GAS temperature 200°C with BS200 (On Request)

ESA Electronic Engineering s.r.l.
Electronic Control System for dust collectors

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Phone ++39 02 972 89 899 Fax ++39 02 972 89 270
**DESCRIPTION**

The need to signal in advance possible leakages of the dedusting system avoiding high costs of environmental reclamation and of plants stop-overs brought, since a long time, to the use of electronic equipments dedicated to a better environmental safeguard. With the use of these devices it is possible to signal any failure that can produce dangerous emissions in the atmosphere which are symptom of breakdown in the dedusting plant. Especially, it is possible to control any breaks of the filtering surfaces, broken bags or cartridges.

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For a correct functioning of the TC probe, the cartridges or the bags must be mounted in a vertical position.

The TC probe is seldom used for the continuous monitoring of the dustiness degree present in the discharge duct of the gases in the atmosphere.

The above-mentioned use entails a more complicated calibration and a deep knowledge of the device.

The TC probe notes the passage of particles which are present in the gases by turning this physical phenomenon into an electric signal 4÷20 mA proportional to the dustiness degree.

A rotary switch located inside the head of the probe (SW 21) allows to change the amplification of the exit signal in order to permit a correct use of the TC probe in the most part of the dedusting systems.

The output signal (4÷20 mA) can be adjusted to program the activation of any alarms when the dust emissions overtake the values which have been set according to the law restrictions.

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<td>GAS temperature</td>
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<td>Operating temperature</td>
<td>-10 °C ÷ +50 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>80 %</td>
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<tr>
<td>Particle Size</td>
<td>&gt;= 0.3 µm</td>
</tr>
<tr>
<td>steel cable length (meter)</td>
<td>4 mt (Standard)</td>
</tr>
</tbody>
</table>

**STANDARD FEATURES**

- TC standard probe fastening bush
- Tropicalisation of the Printed Circuit
- Brass/nickel cable glands M20

**OPTION ON REQUEST**

- High-sensitivity TC probe
- GAS temperature 200°C with BS200 (On Request)
DFC/LFC/LFM is a device designed to maintain constant the pressure inside the collectors with suction opening through INVERTER.

If the suction openings BA are opened or closed for some manufacturing process requirements you may have a pressure variation in every single suction opening which is open. In many plants, this pressure variation is dangerous for the same manufacturing process.

This inconvenient is removed by means of the suggested method composed by DFC/LFC/LFM and INVERTER.

DFC/LFC/LFM is connected to the suction collector to pick up the pneumatic signal that is converted into 4÷20mA signal. 4÷20mA signal is connected to an INVERTER that varies the speed of the fan in order to obtain the pressure maintenance inside the collector within the parameters fixed by DFC/LFC/LFM even after the opening or closure of one or more suction openings.

**TECHNICAL FEATURES**

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Operating temperature: -10 °C + + 50 °C
- Power requirement: < 5 VA
- Protection degree: IP65
- Material: ABS
- dP Control: With internal trasducer
- Air connection P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A
- Fuse: 250 V / 0,5 A F (5x20)

**STANDARD FEATURES**

- Pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- 4÷20 mA output signal for fan speed regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O
- ON/OFF depression regulation from external contact
- Multi language display
**DESCRIPTION**

DFC/LFC/LFM is a device designed to maintain constant the pressure inside the collectors with suction opening through INVERTER.

If the suction openings BA are opened or closed for some manufacturing process requirements you may have a pressure variation in every single suction opening which is open. In many plants, this pressure variation is dangerous for the same manufacturing process.

This inconvenient is removed by means of the suggested method composed by DFC/LFC/LFM and INVERTER.

DFC/LFC/LFM is connected to the suction collector to pick up the pneumatic signal that is converted into 4÷20mA signal. 4÷20mA signal is connected to an INVERTER that varies the speed of the fan in order to obtain the pressure maintenance inside the collector within the parameters fixed by DFC/LFC/LFM even after the opening or closure of one or more suction openings.

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<tr>
<td>Supply voltage on request:</td>
<td>24 VAC / 24 VDC</td>
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<td>Operating temperature:</td>
<td>-10 °C + 50 °C</td>
</tr>
<tr>
<td>Power requirement</td>
<td>&lt; 5 VA</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP20</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminium</td>
</tr>
<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
</tr>
<tr>
<td>Air connection P2</td>
<td>6x4 RILSAN pipe</td>
</tr>
<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
</tr>
<tr>
<td>Fuse</td>
<td>250 V / 0,5 A F (5x20)</td>
</tr>
</tbody>
</table>

**STANDARD FEATURES**

- Pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- 4÷20 mA output signal for fan speed regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- ON/OFF depression regulation from external contact
- Multi language display

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**Electronic Control System for dust collectors**

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Phone +39 02 972 89 899  Fax +39 02 972 89 270
PRESSURE STABILIZER FOR THE COLLECTORS WITH SUCTION

DESCRIPTION

DFC/LFC/LFM is a device designed to maintain constant the pressure inside the collectors with suction opening through INVERTER.

If the suction openings BA are opened or closed for some manufacturing process requirements you may have a pressure variation in every single suction opening which is open. In many plants, this pressure variation is dangerous for the same manufacturing process.

This inconvenient is removed by means of the suggested method composed by DFC/LFC/LFM and INVERTER.

DFC/LFC/LFM is connected to the suction collector to pick up the pneumatic signal that is converted into 4÷20mA signal. 4÷20mA signal is connected to an INVERTER that varies the speed of the fan in order to obtain the pressure maintenance inside the collector within the parameters fixed by DFC/LFC/LFM even after the opening or closure of one or more suction openings.

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Operating temperature: -10 °C ÷ +50 °C
- Power requirement: < 5 VA
- Protection degree: IP20
- Material: Aluminium
- dP Control: With internal trasducer
- Air connection P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A
- Fuse: 250 V / 0,5 A F (5x20)

STANDARD FEATURES

- Pressure readout from internal transducer (max 10 kPa)
- dP zero readout regulation
- 4÷20 mA output signal for fan speed regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- ON/OFF depression regulation from external contact
- Multi language display
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

MASTER UNITS BUS SYSTEM
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control with digital dP control by internal transducer.

STANDARD FEATURES

- Alarm relay contacts open
- Select Number of outputs
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Input activation from external contacts
- Differential pressure digital control
- Differential pressure readout from internal transducer (max 10 kPa)
- Additional cycles after fan stop with fan mode selection.
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- ON/OFF Cleaning cycle from external contact.
- Air connections 6x4 RILSAN pipe
- Maximum load power 25W per output
- Input voltage selection

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td>Standard supply voltage</td>
<td>230 VAC / 115 VAC</td>
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<tr>
<td>Supply voltage on request</td>
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</tr>
<tr>
<td>Solenoid valves voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10°C to +50°C</td>
</tr>
<tr>
<td>Number of lines</td>
<td>1 Max</td>
</tr>
<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP65</td>
</tr>
<tr>
<td>Material</td>
<td>ABS</td>
</tr>
<tr>
<td>dP Control</td>
<td>With internal trasducer</td>
</tr>
<tr>
<td>Air connection P1 - P2</td>
<td>6x4 RILSAN pipe</td>
</tr>
<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

MASTER UNITS BUS SYSTEM
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control with digital dP control by internal transducer.

STANDARD FEATURES

- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- ON/OFF cleaning cycle from external contact
- Air connections 6x4 RILSAN pipe
- Select Number of outputs
- Short-circuit protection of every single output
- Electric control of output activation
- Input activation from external contacts
- Differential pressure readout from internal transducer (max 10 kPa)
- Operation hours-counter
- Maximum load power 25W per output
- Multi language display

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoids valves voltage: 24 VDC
- Operating temperature: -10 °C + + 50 °C
- Number of lines: 2 Max
- Power requirement: 10 VA (Stand-by)
- Protection degree: IP20
- Material: Aluminium
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2.5 mm² - 250 VAC / 12 A

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout

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SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

MASTER UNITS BUS SYSTEM
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control with digital dP control by internal transducer.

STANDARD FEATURES

- Minimum and maximum dP alarms on same open collector output
- Short-circuit protection of every single output
- Electric control of output activation
- Open collector outputs without voltage en alarm
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Manual activation of every single output from keyboard
- ON/OFF cleaning cycle from external contact
- Air connections 6x4 RILSAN pipe
- Select Number of outputs
- Operation hours-counter
- Maximum load power 25W per output
- Multi language display

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 24 VDC
- Operating temperature: -10 °C + +50 °C
- Number of lines: 1 Max
- Power requirement: 10 VA (Stand-by) / 30 VA Max ev. ON
- Protection degree: IP20
- Material: Aluminium
- dP Control: With internal transducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

OPTION ON REQUEST

- 4÷20 mA output signal of dP readout

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**DESCRIPTION**

**MASTER UNITS BUS SYSTEM**
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control with digital dP control by internal transducer.

**STANDARD FEATURES**
- Minimum and maximum dP alarms on same relay (K2)
- Digital differential pressure control (STOP at cycle end)
- dP zero readout regulation
- dP full range 10.00 kPa = 100.0 mbar = 1012 mmH2O.
- Additional post-cleaning cycles from dP readout. Activation at STOP.
- Cleaning cycle
- Automatic operation mode
- Manual operation mode
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Relay Voltage ON (K1)
- Consent from external compressed air pressure switch
- Manual activation of every single output from keyboard
- ON/OFF cleaning cycle from external contact
- Select Number of outputs
- Short-circuit protection of every single output
- Electric control of output activation
- Operation hours-counter
- Maximum load power 25W per output
- Multi language display

**TECHNICAL FEATURES**
- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 24 VDC
- Operating temperature: -10 °C + + 50 °C
- Number of lines: 2 Max
- Power requirement: 10 VA (Stand-by)
- Protection degree: IP65
- Material: ABS
- dP Control: With internal trasducer
- Air connection P1 - P2: 6x4 RILSAN pipe
- Terminals: 2,5 mm² - 250 VAC / 12 A

**OPTION ON REQUEST**
- 4−20 mA output signal of dP readout

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DESCRIPTION

MASTER UNITS BUS SYSTEM
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control without dP control.

STANDARD FEATURES

- Relay Voltage ON (K1)
- Select Number of outputs
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Interval time between ev. during post-cleaning
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Input activation from external contacts
- Cleaning cycle
- ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
- Additional cycles from voltfree contact. ALWAYS enabled.
- ON/OFF cleaning cycle from external contact
- Operation hours-counter
- Maximum load power 25W per output
- Multi language display

TECHNICAL FEATURES

- Standard supply voltage: 230 VAC / 115 VAC
- Supply voltage on request: 24 VAC / 24 VDC
- Solenoid valves voltage: 24 VDC
- Operating temperature: -10 °C + + 50 °C
- Number of lines: 2 Max
- Power requirement: 10 VA (Stand-by) 30 VA Max ev. ON
- Protection degree: IP20
- Material: Aluminium
- Terminals: 2,5 mm² - 250 VAC / 12 A
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

MASTER UNITS BUS SYSTEM
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control without dP control.

STANDARD FEATURES

✓ Open collector outputs without voltage en alarm
✓ Select Number of outputs
✓ Activation time from 0.05 to 5.00 sec.
✓ Interval time from 1 to 999 sec.
✓ Short-circuit protection of every single output
✓ Electric control of output activation
✓ Manual activation of every single output from keyboard
✓ Input activation from external contacts
✓ Cleaning cycle
✓ Additional cycles from voltfree contact. ALWAYS enabled.
✓ Operation hours-counter
✓ Maximum load power 25W per output
✓ Multi language display

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</tr>
<tr>
<td>Operating temperature</td>
<td>- 10 °C ÷ + 50 °C</td>
</tr>
<tr>
<td>Number of lines</td>
<td>1 Max</td>
</tr>
<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
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<tr>
<td>Protection degree</td>
<td>IP20</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminium</td>
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<td>Terminals</td>
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# SEQUENCER FOR DEDUSTING PLANTS

## DESCRIPTION

**MASTER UNITS BUS SYSTEM**
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control without dP control.

### STANDARD FEATURES
- Select Number of outputs
- Activation time from 0.05 to 5.00 sec.
- Interval time from 1 to 999 sec.
- Short-circuit protection of every single output
- Manual activation of every single output from keyboard
- Input activation from external contacts
- ON/OFF cleaning cycle from external pressure switch
- Additional cycles after fan stop
- ON/OFF Cleaning cycle from external contact.
- Maximum load power 25W per output
- Input voltage selection

## TECHNICAL FEATURES

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</tr>
<tr>
<td>Number of lines</td>
<td>1 Max</td>
</tr>
<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
</tr>
<tr>
<td></td>
<td>30 VA Max ev. ON</td>
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<tr>
<td>Protection degree</td>
<td>IP65</td>
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<tr>
<td>Material</td>
<td>ABS</td>
</tr>
<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

## OPTION ON REQUEST
- ✔ Metric Cable Glands. Type and Q.ty on request.
- ✔ Other Enclosures available on request.
SEQUENCER FOR DEDUSTING PLANTS

DESCRIPTION

MASTER UNITS BUS SYSTEM
Master unit for BUS SYSTEM for dedusting plant cleaning cycle control without dP control.

STANDARD FEATURES
✓ Relay Voltage ON (K1)
✓ Select Number of outputs
✓ Activation time from 0.05 to 5.00 sec.
✓ Interval time from 1 to 999 sec.
✓ Short-circuit protection of every single output
✓ Electric control of output activation
✓ Manual activation of every single output from keyboard
✓ Input activation from external contacts
✓ Cleaning cycle
✓ ON/OFF cleaning cycle from external pressure switch. STOP at the end of the cycle
✓ Additional cycles from voltfree contact. ALWAYS enabled.
✓ ON/OFF cleaning cycle from external contact
✓ Operation hours-counter
✓ Maximum load power 25W per output
✓ Input voltage selection

TECHNICAL FEATURES

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<td>Solenoid valves voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10 °C + + 50 °C</td>
</tr>
<tr>
<td>Number of lines</td>
<td>2 Max</td>
</tr>
<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
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<tr>
<td>Protection degree</td>
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<tr>
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</tr>
<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

OPTION ON REQUEST
✓ Metric Cable Glands. Type and Q.ty on request.
✓ Other Enclosures available on request.
✓ Relay K1 Cycle ON / OFF contact. Closed with active cycle
✓ Keypad lock
**RU-BA FIRST UNIT OF THE LINE BUS**

### DESCRIPTION
First unit of the line, it can operate without external master. Possibility to connect up to 11 RU-BB in cascade.

### STANDARD FEATURES
- Settings 4 different activation times by dip-switch
- Settings 4 different pause times by dip-switch
- 3 post-cleaning cycles after fan stop
- Double terminal board for connection of solenoid valves

### TECHNICAL FEATURES

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<tr>
<th>Feature</th>
<th>Value</th>
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<tbody>
<tr>
<td>Standard supply voltage</td>
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<tr>
<td>Supply voltage on request</td>
<td>24 VAC</td>
</tr>
<tr>
<td>Solenoid valves voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10 °C to +50 °C</td>
</tr>
<tr>
<td>Pulse Time</td>
<td>100 ms, 250 ms, 500 ms, 1 s</td>
</tr>
<tr>
<td>Interval time</td>
<td>5 s, 20 s, 60 s, 120 s</td>
</tr>
<tr>
<td>No. Outputs</td>
<td>8 Solenoid valves Max</td>
</tr>
<tr>
<td>Power requirement</td>
<td>10 VA (Stand-by)</td>
</tr>
<tr>
<td></td>
<td>30 VA Max ev. ON</td>
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<tr>
<td>Protection degree</td>
<td>IP65</td>
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<tr>
<td>Material</td>
<td>ABS</td>
</tr>
<tr>
<td>Terminals</td>
<td>2,5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

### OPTION ON REQUEST
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Interval time on request
- Pulse Time on request

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DESCRIPTION

First unit of the line, it can operate without external master. Possibility to connect up to 11 RU-CB in cascade.

STANDARD FEATURES

- Electropilot 24VDC ASCO NUMATICS
- Settings 4 different activation times by dip-switch
- Settings 4 different pause times by dip-switch
- 3 post-cleaning cycles after fan stop
- Double terminal board for connection of solenoid valves

TECHNICAL FEATURES

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<tr>
<td>Operating temperature</td>
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<tr>
<td>Pulse Time</td>
<td>100 ms</td>
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<tr>
<td></td>
<td>250 ms</td>
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<tr>
<td></td>
<td>500 ms</td>
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<td>1 s</td>
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<td>Interval time</td>
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<td>60 s</td>
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<td>120 s</td>
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<tr>
<td>No. Outputs</td>
<td>8 pilots Max</td>
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<td>2,5 mm² - 250 VAC / 12 A</td>
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</tbody>
</table>

OPTION ON REQUEST

- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.
- Interval time on request
- Pulse Time on request

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**REMOTE UNIT BUS-SYSTEM**

**DESCRIPTION**
Remote unit operating in cascade to RU-BA or Master controller.
Possibility to connect up to 11 RU-BB in cascade.

**STANDARD FEATURES**
- Selection of the Number of outputs with Dip-Switch

**TECHNICAL FEATURES**

<table>
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<tr>
<td>Terminals</td>
<td>2.5 mm² - 250 VAC / 12 A</td>
</tr>
</tbody>
</table>

**OPTION ON REQUEST**
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

**Dimensions**
- RU-BA: 195 x 95 x 110 mm
- RU-BB: 195 x 95 x 118 mm

**Wiring Diagram**
A = Supply Voltage
B = 3 wires BUS line
C = Solenoid valves

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REMOTE UNIT BUS-SYSTEM

**DESCRIPTION**
Remote unit functioning in cascade to RU-CA or Master Controller. Possibility to connect up to 11 RU-CB in cascade.

**STANDARD FEATURES**
- Selection of the Number of outputs with Dip-Switch
- Electropilot 24VDC ASCO NUMATICS

**TECHNICAL FEATURES**
- Standard supply voltage: 24 VDC
- Solenoid valves voltage: 24 VDC
- Operating temperature: -10 °C ÷ +50 °C
- No. Outputs: 8 pilots Max
- Power requirement: 10 VA (Stand-by), 30 VA Max ev. ON
- Protection degree: IP65
- Material: ABS
- Terminals: 2,5 mm² - 250 VAC / 12 A

**OPTION ON REQUEST**
- Metric Cable Glands. Type and Q.ty on request.
- Other Enclosures available on request.

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**Diagram**

**A = Supply Voltage**
**B = 3 wires BUS line**
**C = Solenoid valves**
**D = Diaphragm valve**

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