Forum B + V Oil Tools

Pipe Handling Equipment

Control Unit for Grease System (Grease Counter)

Grease Counter P/N 755 105-12

Installation Manual

Third Party Installation Manual

Grease Counter

Installation Manual PN 755105-12-D Rev 000 June 2015

Forum B + V Oil Tools GmbH

Blohm+Voss

SAFETY INSTRUCTIONS

for Control Units [Elevator/Power Slips]

OUR goal is to produce tools that help you work safely and efficiently.
The most important safety device for this tool is YOU.
YOUR good judgement is the best protection against injury.

Maintenance Hazards

⚠ **Always remember** to shut down all rig supply and get in safe condition before starting maintenance work on the control units.

⚠ **Always plan** maintenace on a regular basis. Note and file checks as shown in inspection/check table.

Operation Hazards

⚠ **Practice safety** at all times when operating/ maintaining the control unit. Always wear your personal protective equipment (PPE e.g. gloves, hard hat, eye protection,…)

⚠ **Never** operate the control units open. All Flaps and locks must be closed and secured for operation.

⚠ **Keep in mind** that the control unit is purchased and designed as a separate supporting tool.

Therefore make sure that a proper Interlock system is installed and in operation.

⚠ **Inter Lock** control setting

Elevator		Power Slip		Control
Holds weight Doors closed	+	**Weightless** Slips UP	→	**1. Doors locked** **2. Slips enabled**
Weightless Doors closed	+	**Holds weight** Slips DOWN	→	**1. Doors enabled** **2. Slips locked**
Weightless Doors open	+	**Holds weight** Slips DOWN	→	**1. Doors enabled** **2. Slips locked**
Holds weight Doors closed	+	**Weightless** Slips DOWN	→	**1. Doors locked** **2. Slips enabled**

Inspection / Check table

Task / Interval	Daily	Monthly	2 Year
1. Visual check for damages	☑	☑	☑
2. Visual check for leakage and hose condition	!	!	!
3. Check fastener , couplings and screws for corrosion	☑	☑	☑
4. Perform a function test and display check	☑	☑	☑
5. Visual check for leakage inside control unit	☒	!	!
6. Check all cable connections	☒	!	!
7. Full Inspection [see below]	☒	☒	!

☑ Necessary ☒ Not necessary ! Safety task! Take out of service and repair!

Full Inspection

- Check all Component condition and function
- Replace bad/worn components
- Perform a 100% pressure test (hydraulic devices) for 5 minutes and check for leakage
- Check all connections for proper installation

⚠ **NOTE** Rig operations may have different time schedules, replace hose and cable after 5 years at latest. Double check with rig superintendent.

⚠ **Mandatory** The locking cannot be unset/overwritten by giving a control unit command.

FORUM™ B+V Oil Tools

DO NOT DISCARD - GIVE TO OPERATOR

Legal disclaimer

We are grateful for suggestions and critic regarding this documentation or the product itself.

Printed in Germany.

ATTENTION!

THIS MANUAL MUST BE READ AND UNDERSTOOD BEFORE INSTALLATION AND START-UP!

This document is prepared by a third party.

Please refer to original manufacturer for detailed request.

Table of content

1 Contact Information

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oiltools@f-e-t.com
www.blohmvoss-oiltools.com

1.2 Forum Energy Technologies Regional Drilling locations

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tel: +1 713-609-9808 – 24 hour hotline

Drilling Sales Headquarters
10344 Sam Houston Park Drive, Suite 300
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tel: +1 713-351-7900

Drilling Regional Office
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fax: +65 6465 4851
Out of hours +65 91389812

Drilling Regional Office
Unit 7, Murcar Industrial Estate Denmore Road
Bridge of Don Aberdeen
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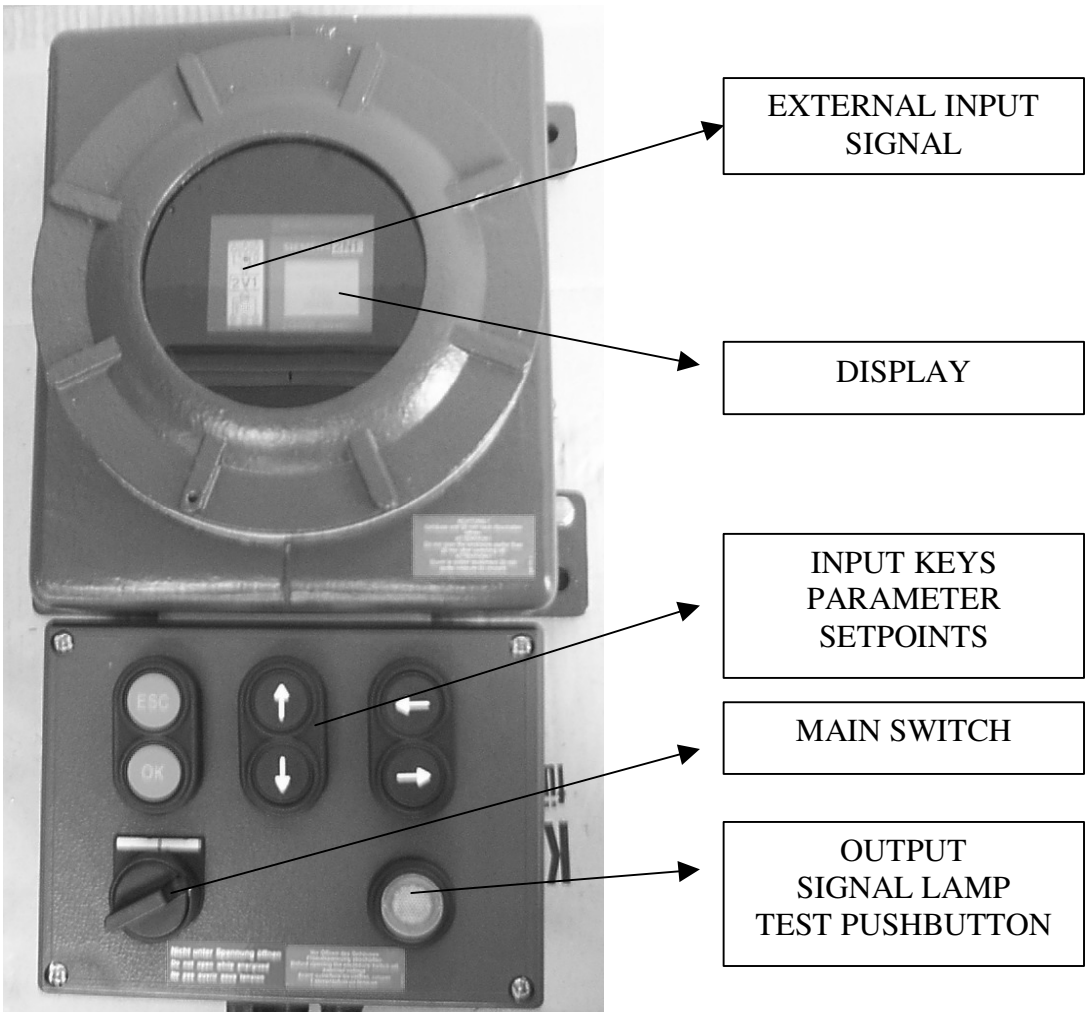
Drilling Regional Office
Oilfields Supply Center - Building B-45
Jebel Ali Free Zone Dubai UAE
tel:+971 4 883 5266

Revision History

Rev.:	Chapter	Description	Editor Date	Check/Release Date
000	All	Initial Release	22.06.2015MH	22.06.15 MH

MANUAL

- COUNTER – BOX -



(Overview)

Connection[1] of

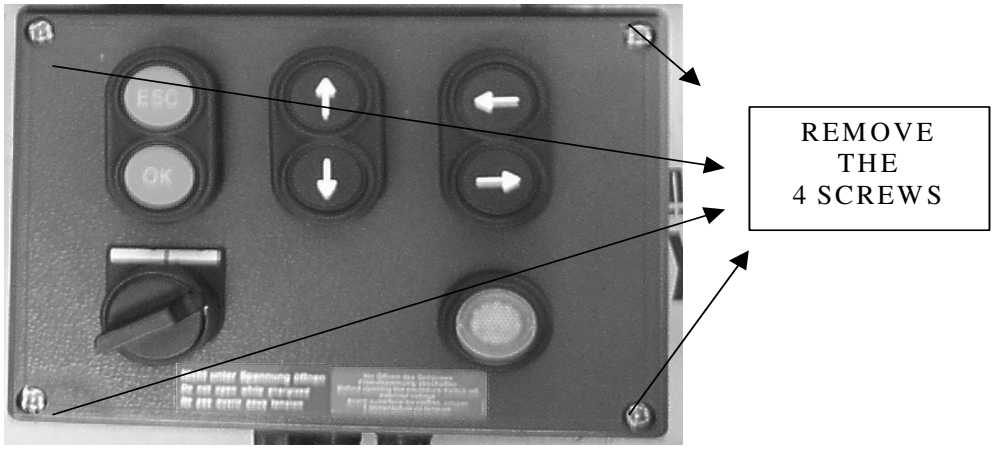
... POWER SUPPLY (24Vdc)

... EXTERNAL 24Vdc INPUT SIGNAL

... OUTPUT SIGNAL 24Vdc TO SOLENOID VALVE

STEP 1 :

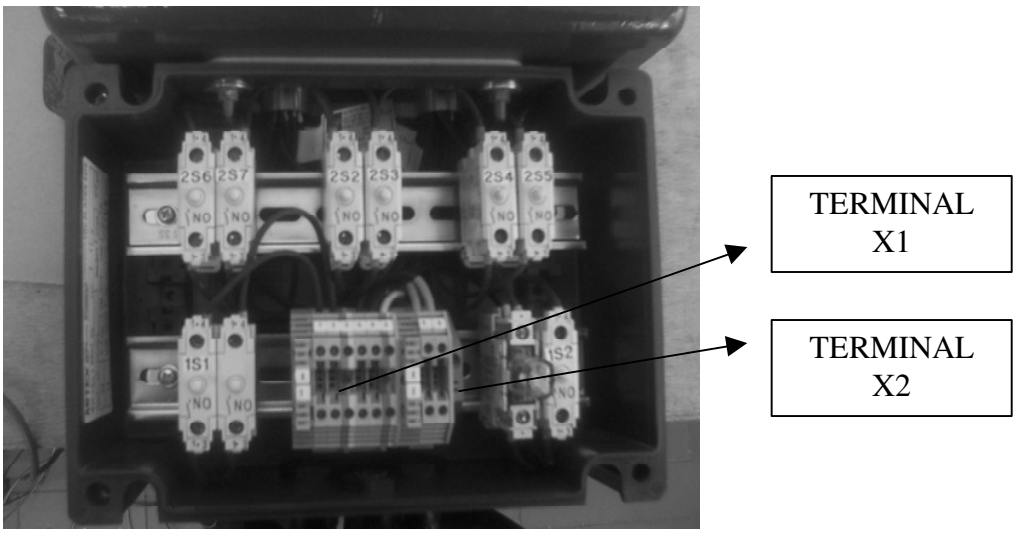
- remove the 4 screws at the cover of the input keys ...



(Operating keys)

STEP 2

- take away the the cover



(Terminal strip X1 and X2)

[1] This work have to make by authorized persons.

STEP 3

- connect the POWER SUPPLY (24Vdc) to

X1 – 1 : L+ (24Vdc)
X1 – 2 : L- (GND)
X1 – 3 : PE

- connect OUTPUT SIGNAL 24Vdc SOLENOID VALVE to

X1 – 4 : L+ (24Vdc)
X1 – 5 : L- (GND)
X1 – 6 : PE

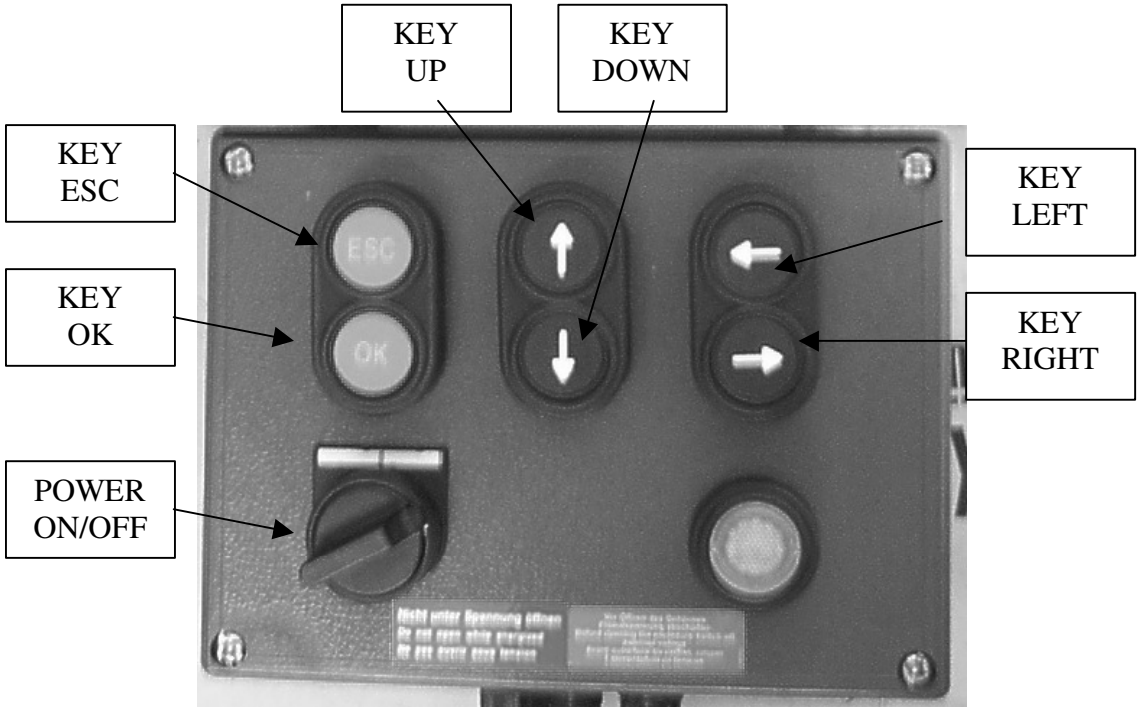
- connect EXTERNAL 24Vdc INPUT SIGNAL to

X2 – 1 : L+ (24Vdc)
X2 – 2 : L- (GND)
X2 – 3 : PE

STEP 4

- install the cover as remove on step 1
- check the correct position of the cover and
- operation of the main switch and the pushbuttons

Setpoints of Counter and Timer



(Keys for setpoint input)

STEP 1

- switch **OFF** the power supply (Position **0**)
- and take care no input signal is reading

STEP 2

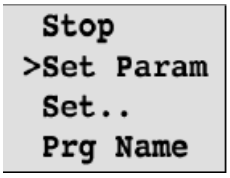
- depress down the **KEY ESC** and switch **ON** the power supply together
- hold the **KEY ESC** as long as on the display the following screen is showing

```
I:
0.. 123456789
1..0123456789
2..01234
```

- depress **KEY ESC** again

```
>Stop
 Set Param
 Set..
 Prg Name
```

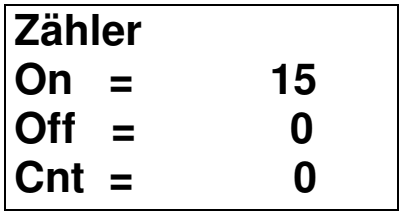
- depress **KEY DOWN**



- depress the **KEY OK**
- the screen for the Counter (Zähler) is showing
- to go to the Timer – Setpoint please depress the **KEY DOWN** again
- or go back to the Counter - Setpoint (Zeit) by the **KEY UP**

STEP 3

- Setpoint of the Counter (Zähler)



- depress the **KEY OK**
- the digit on the line **ON** will be flashing and a cursor is setting
- at the first position
- with the **KEY LEFT** or **KEY RIGHT** please select a digit and decrement or increment the actual value of the digit by the **KEY UP** or **KEY DOWN**
- if the actual setpoint is ok, then please depress the **KEY OK**
- if it is necessary to change also or only the Timer – Setpoint then please depress the **KEY DOWN**
- the input of the setpoint(s) will be finished by the **KEY ESC** as long as the first picture in step 2 will be shown on the text display

-

STEP 4

- Setpoint of the Timer (Zeit)

Zeit		
T	**=**	**10:00**
Ta	**=**	**00:00**

- depress the **KEY OK**
- the first digit on the line **T =** will be flashing and a cursor is setting
- with the **KEY LEFT** or **KEY RIGHT** please select the digit and decrement or increment the actual value of the digit by the **KEY UP** or **KEY DOWN**
- if the actual setpoint is ok, then please the **KEY OK**
- the input of the setpoint(s) will be finished by the **KEY ESC** as long as the first picture in step 2 will be shown on the text display

Please note :

The display will be automatically switch over to the screen to show the actual counter / timer value, if the first input signal is reading.

OPERATING

- switch on the power supply
- the reading of an input signal is shown by a lamp (LED) inside the green box
- on the text display the actual counter value and the timer is shown
- if the setpoint and the current counter value is equal then the output signal is setting as long as the actual setpoint of the timer
- a signal lamp inside the Test pushbutton is shining
- if the timer is finished then the output signal will be switch off and the counter is set to zero and the next cycle will be starting
- everytime the Test –Pushbutton can be used to check the output signal

MITEX Handels- und Produktions GmbH

Operating Instructions for EEx-control and distribution equipment

Mitex Handels-und Produktions GmbH
Holsteinstraße 32
23812 Wahlstedt
www.mitex-gmbh.de
mitexde@tiscali.de
Tel. 04554-991565
Fax.04554-991590

TOC

1. Safety instructions

When working in hazardous areas, the safety of personnel and plant depends on complying with all relevant safety regulations. Assembly and maintenance staff working on installations therefore have a particular responsibility. They require precise knowledge of the applicable standards and regulations.

All user, please observe:
. National safety and accident prevention regulations.
. National installation regulations (e.g. IEC 60079-14)
. Generally recognised technical regulations.
. Safety guidelines and information in these operating instructions as well as the enclosed mechanical assembly drawings, wiring diagrams and operating instructions of the subassembly devices.
. Characteristic values and rated operating conditions on the rating and data plates.
. Additional instruction plates / labels on the devices.
. that any damage can invalidate the Ex-protection
. that switchgear combinations are only to be operated within the enclosures that are completely closed.

Incorrect and impermissible use or non-compliance with these instructions invalidates our warranty provision. No changes to the devices and components imparing their explosion protection are permitted. Further, they may only be fitted if they are undamaged , dry and clean.

2. Conformity to standards

The devices comply with the following standards and directives:
. Directive 94/9 EC;
EN 50014, EN 50017, EN 50018, EN 50019, EN 50020, EN 50028, 50281-1-1
The devices are approved for use in hazardous area zones 1 and 2.

3. Technical data

see type label and specification

4. Ex protection

The devices are marked using abbreviated code indicating the type of protection. When relevant, this code is supplemented with an addional abbreviation, such as e, q, m, [ia] or [ib] , corresponding to the device actually built in. The temperature class of the control unit relates to the power loss of the fitted device in the flameproof enclosed space.

Typ CA	Typ 8146	Typ GUB	Typ EJB

Explosion protection, device group and categorie

Ex II 2G	Ex II 2G/D

Type of explosion protection to EN 500014

EEx e. II 2G	EEx e. IIC T5…T6 T80°C…T95°C	EEx d. IIC T4…T6 T85°C…T135°C	EEx d. IIB T3…T6 T85°C…T150°C

May be used in temperature range :

T6 :-20°C … +40°C
T3-T5 :-20°C … +55°C

TOC

Key of classification

position	contents	Meaning
1	EEx-d housing	G=GUB;E=EJB
2	EEx-e housing	A=Aluminium P=Polyester
3	hyphen	seperator
4, 5	Size of Ex-d housing	01=GUB01;11=GUB011 02=GUB02: 03GUB03
6	Slash	Seperator
7, 8, 9	Size of Ex-d housing	The last 3 points in the article descriptionof the producer. For example: Stahl 8146/.081 – 081 Or: Bernstein CA 370 - 370

5. Types of protection

The degree of protection in accordance with IEC 60529 is a maximum of IP66
It is based on the fitted devices. The minimum protection for G/D is IP 54 alternatively for D IP64 for zone 21.

6. Determination of the temperature class of Ex-d control units

The temperature class T6,T5 or T4 of Ex-d control units are determind using the following criteria. The power loss calculated by adding all power losses of all fitted components under rated conditions in accordance with the data sheets of device manufacturers. In accordance with DIN 50014, and increased factory of safety of 1,21 has been taken into consideration when calculating tolerances of supply voltage and supply currents in tables5-4 and 5-5 (i.e. 1,1 per voltage and current tolerance). The marking of the temperature class is displayed in the specification list and on the rating plate.

7. Installation

Installation and commissioning of the device is only to be performed by a qualified electrician

When installing, please note that:
-Particular care should be taken when making the connections.The connection cabling mustcorrespond to the applicable standards an possess the required cross-sectional area. The cross-sectional area must meet the specifications for cableing.
-Ensure that maximum permissable conductor temperatures are not exceeded by selecting suitcables and a suitable means of running them.
-Intrinseically safe devices and components fitted into the enclosure must not be exposed to temperatures higher than the permissable ambient temperature.
-When stripping wire endings, make sure that insulation extends up to the terminal block.
-Do not damage the conductor whe stripping of the insolation.
-Prevent moisture and dirt from entering the interiorof the switchgear combination by performing installation work in a clean, dry area.

Protective earth conductor

-In all calsses connect the protective earth conductor
-Regardless of the operating voltage, connect all bare, non-energises metal parts to earth /grounding system.
-The external protective earthing conductor is designed to be fitted with a cable lug.
The cablemust be laid snugly against the enclosure so that a enlargement of the Cabling is prevented.

8. Opening and closing the enclosure

Attention : “do not open when energised”
Only open the housing to perform installation, maintenance and servicing work.
The enclosure must be carefully closed again after the installation work is Concluded.

TOC

9. Mains connection

The cross-sectional area of the splay protection must meet the wire cross section.
Back up fuse : Secure the system with the specified electrical back-up fuse.
The fuse circuit must be sufficiently rated in regards to short circuit current so as to ensure safe fuse triggering.

10.I.S. circuits

Erection instructions in the testing certificates of instrinsically safe apparatus Are to be observed. The electrical safety values stipulated on the type label must not be exceeded in the instrinsically safe circuit.When interconnected instrinsically safe circuit it is to be tested whether the voltage and/or current addition occurs. The intrinsically safety is to be ensured. Lay the wiring for EEx "i" circuits with a space of at least 8mm between adjacent instrinsically safe circuits.

Exceptions: When either intrinsically safe circuit cables or non-intrinsically safe circuit wiring are shielded with earth sheaths. Observce the guidelines concerning spacing between connection points of intrinsically safe circuit cable and non-intrinsically safe circuits:

- 50mm spacing or thread measure around an insulated ($\geq$ 1mm thick) or earthed metallic ($\geq$ 0.45mm thick) insulation plate
- an insulation plate that extends to within $\leq$ 1.5mm of the enclosure wall.

11.Line-up Terminal EEx "e" terminal chamber

Pay attention to the test certificate of the terminals.

- Only one cable is to be connected per clamping point. Terminal bridging is only permitted if original I.S. accessories have been used, partition plates as needed.
- For additional protection against splaying use crimped wire ends or cable lags.
- If crimped wire ends are used, these must be gas-fight and attached using an appropriate tool.

12.Commissioning

Before commissioning, ensure that

- the device is for the correct voltage
- the device is not damaged
- no extraneous particles are present in the device
- the terminal chamber is clean
- the connections have been correctly made
- the cable are leads are inserted properly
- all bolts and nuts are tightened firmly
- the cable entries and stopping plugs are connected firmly
- the cable entries certified as per Directive 94/9/EC are attached firmly
- unused drill holes are sealed with stopping plugs certified as per Directive 94/9/EC for the relevant type of explosion protection
- Are all covers and partition plates associated with energised components in place and firmly attached?

13. Maintenance and servicing

Please pay attention to the national regulations applicable in the country of deployment. Maintenance , repair and servicing work on the devices must only be performed by personnel who are both authorised and suitably trained for this purpose.

Do not open the devices if non-intrinsically-safe circuits are energised.

Exceptions: Devices with intrinsically safe an non-intrinsically safe circuits marked with the label "Non-intrinsically-safe circuits protected by IP30 cover" may be opened while energised.

Repair and servicing works is not permitted on damaged flameproof enclosures. In this case, replace the installed component.

To prevent defects in the systems, perform maintenance work regulary. The intervals between inspecitions should not however exceed a maiximum of three years. We would therefore recommend that maintenance is one times each year. For offshore Two to fare times. Maintenance of the devices is only to be performed by a qualified Electrician.

14. Disposal

Please observe the national waste-disposal regulations.

TOC

(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres

(3) EC-type-examination Certificate Number:

TÜV 04 ATEX 2472

(4) Equipment: Control and distribution box, type ..-../..

(5) Manufacturer: Mitex Handels- und Produktions GmbH

(6) Address: Holsteinstraße 32, D-23812 Wahlstedt

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH & Co.KG notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requiements relating to the design and construction of equipmentand protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and the test results are recorded in the confidential report Nr. 05 YEX 550672

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + A1 + A2
EN 50018:2000 + A1
EN 50019:2000
EN 50281-1.1 :1998 + A1

(10) If the sign « X » is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:
IIGD Eex de II B or IIC T3 – T6 or T* °C IP **

HANNOVER, 30.08.2005
TÜV NORD CERT GmbH & CO. KG
Am TÜV 1
30519 Hannover
Tel.: +49(0) 511 986-1455
Fax: +49(0) 511 986-1590

TOC

(13) **Schedule**

(14) **EC-TYPE-EXAMINATION CERTIFICATE TÜV 04 ATEX 2472**

(15) **Description of equipment**

The control and distribution box type . . - ../… concerns the combination of empty enclosure with type of protection flameproof enclosure (Ex-d) and increased safety (Ex)e.
Both enclosure populated with electrical or electronical equipment.

Type label

.. - .. / …

Dimension of Ex-e-enclosure sample:	081=Stahl 8146/.081 370=Bernstein CA 370
Dimension of Ex-d-enclosure sample:	01=GUB01, 21=EJB21 02=GUB02, 23=EJB23
Material of Ex-e-enclosure:	A=Aluminium P=Polyester resign

Technical data

The construction of this control and distribution boxes and the marking are different as follows:

Ambient temperature range	-20 °C to +40 °C for T6 -20 °C to +55 °C for T3-T5

TOC

The following housing combinations may be possible:

Table1:

EEx-e housings	dimensions	EEx-d housings IIC GUB (W) 01	EEx-d housings IIC GUB (W) 011	EEx-d housings IIC GUB (W) 02	EEx-d housings IIC GUB (W) 03
CA270	160x160x90	X	X	X	X
CA300	260x160x90	X	X	X	X
CA350	200x230x110	X	X	X	X
CA360	200x230x180	X	X	X	X
CA370	280x230x110	X	X	X	X
CA380	330x230x110	X	X	X	X
CA390	330x230x180	X	X	X	X
CA420	600x230x110	X	X	X	X
CA450	402,5x310x110	X	X	X	X
CA460	402,5x310x180	X	X	X	X
CA470	600x310x110	X	X	X	X
CA480	600x310x180	X	X	X	X
CPS530/8146/.051	170x170x91	X	X	X	X
8146/.061	227x170x91	X	X	X	X
8146/.062	227x170x131	X	X	X	X
CPS550/8146/.S71	340x170x91	X	X	X	X
8146/.072	340x170x131	X	X	X	X
8146/.073	340x170x150	X	X	X	X
CPS570/8146/.081	340x340x91	X	X	X	X
8146/.082	340x340x131	X	X	X	X
8146/.083	340x340x150	X	X	X	X
CPS590/8146/.085	340x340x190				X

Table2:

Eex-e housings	dimensions	EEx-d housing IIB EJB21	EEx-d housing IIB EJB23	EEx-d housing IIB EJB31	EEx-d housing IIB EJB51	EEx-d housing IIB EJB61	EEx-d housing IIB EJB63
CA350	200x230x110	X	X	X	X	X	X
CA360	200x230x180	X	X	X	X	X	X
CA370	280x230x110	X	X	X	X	X	X
CA380	330x230x110	X	X	X	X	X	X
CA390	330x230x180	X	X	X	X	X	X
CA420	600x230x180	X	X	X	X	X	X
CA450	402,5x310x110	X	X	X	X	X	X
CA460	402,5x310x180	X	X	X	X	X	X
CA470	600x310x110	X	X	X	X	X	X
CA480	600x310x180	X	X	X	X	X	X
CPS530/8146/.051	170x170x91	X	X	X	X	X	X
8146/.061	227x170x91	X	X	X	X	X	X
8146/.062	227x170x131	X	X	X	X	X	X
CPS550/8146/.S71	340x170x91	X	X	X	X	X	X
8146/.072	340x170x131	X	X	X	X	X	X
8146/.073	340x170x150	X	X	X	X	X	X
CPS570/8146/.081	340x340x91	X	X	X	X	X	X
8146/.082	340x340x131	X	X	X	X	X	X
8146/.083	340x340x150	X	X	X	X	X	X
CPS590/8146/.085	340x340x190		X	X	X	X	X
8146/.091	681x340x91				X	X	X
8146/.092	681x340x131				X	X	X

TOC

Details for marking

By using seperatly certificated electrical equipment you must add their marking symbol, otherwise it´s the maximum marking. May be restrictive by every construction possible.

*) By using these control and distribution boxes in harzardous areas with gases, vapours or atomise, marked with the temperature class. By using in hazardous areas with dusts or the combination of both areas marked with the maximum surface temperature. Sample: T80°C.

**) The degree of protection of the enclosure are always on the typelabel.

(16) Test report

Nr. 05 YEX 550672

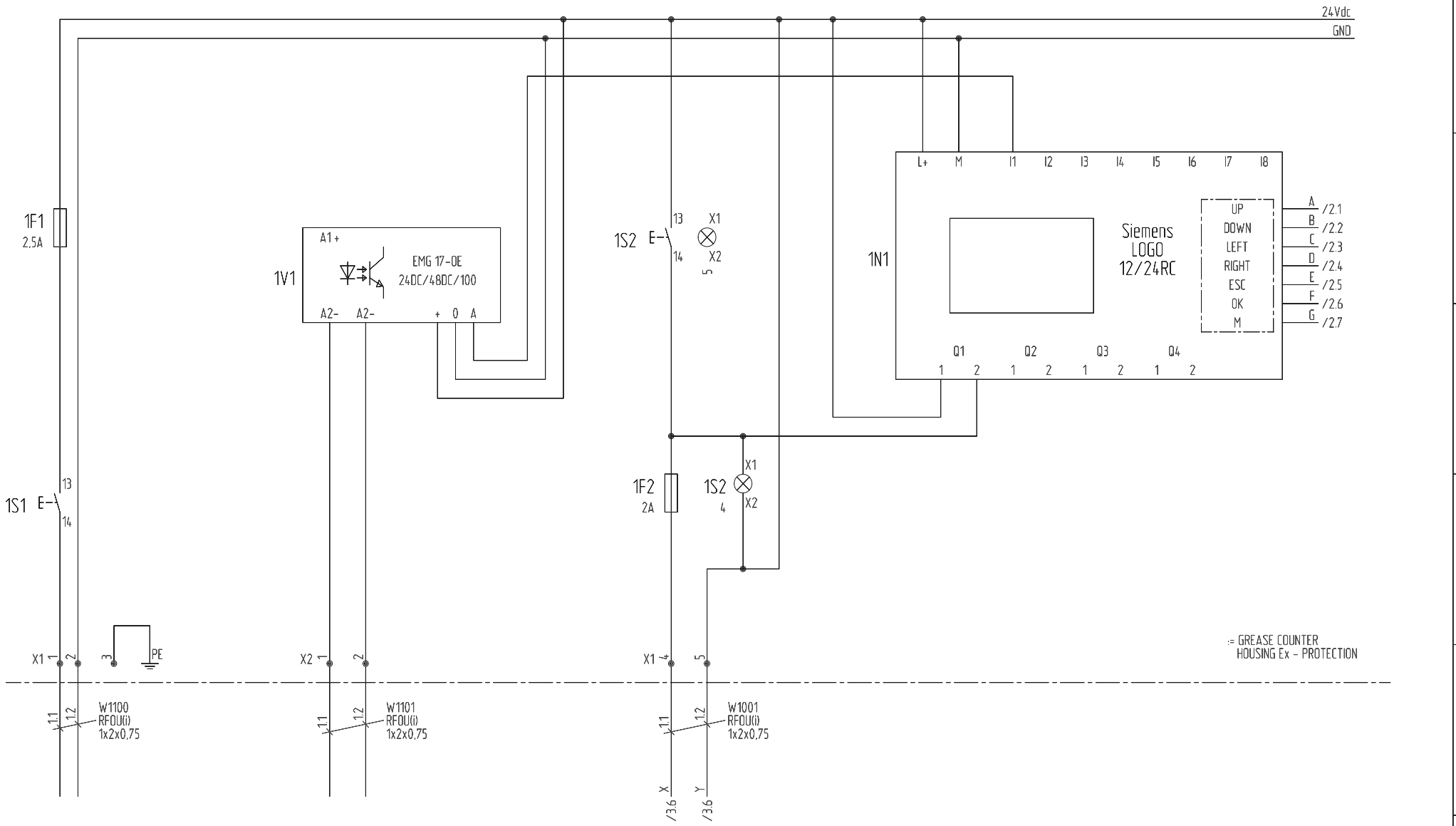
(17) Special conditions for safe use

None.

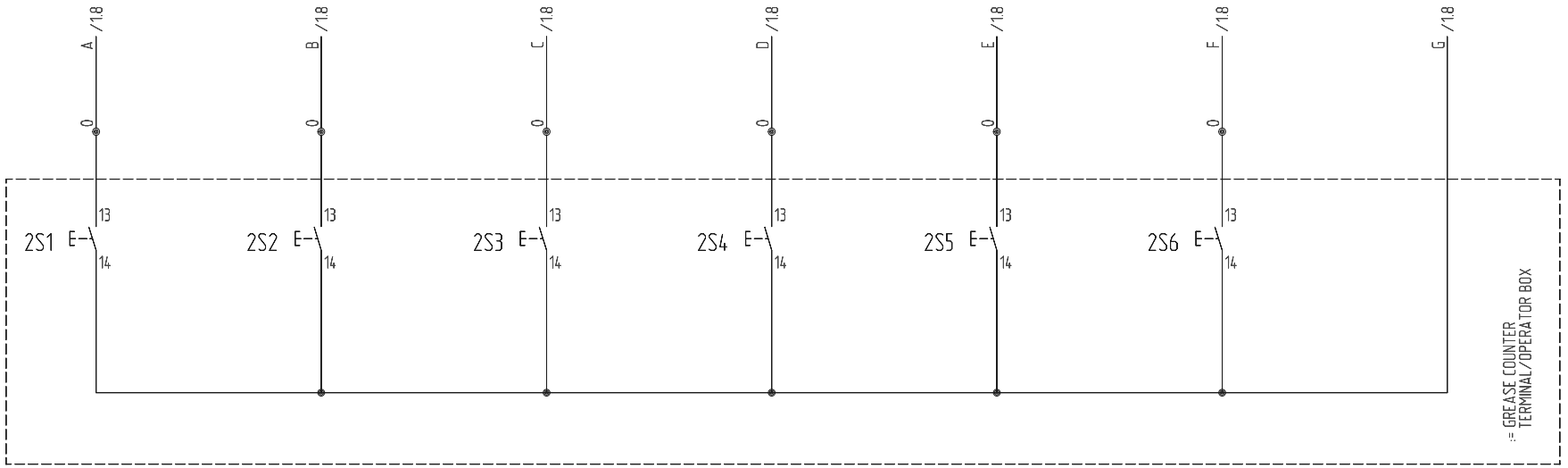
(18) Essential health and sefety requirements

None additional.

TOC



				Date	23.02.2011		BLOHM & VOSS Repair GmbH OIL TOOL Division Hamburg - Germany	Power supply 24Vdc Control logic	CIRCUIT DIAGRAM = +
				Drawn	U.Ahrens				
				Check	J.Rohlfing				GREASE COUNTER Sheet 1
Status	Change	Date	Name	Norm	Norm	Orig. / Repl.	Replaced by		from 3



PUSH BUTTON UP

PUSH BUTTON DOWN

PUSH BUTTON LEFT

PUSH BUTTON RIGHT

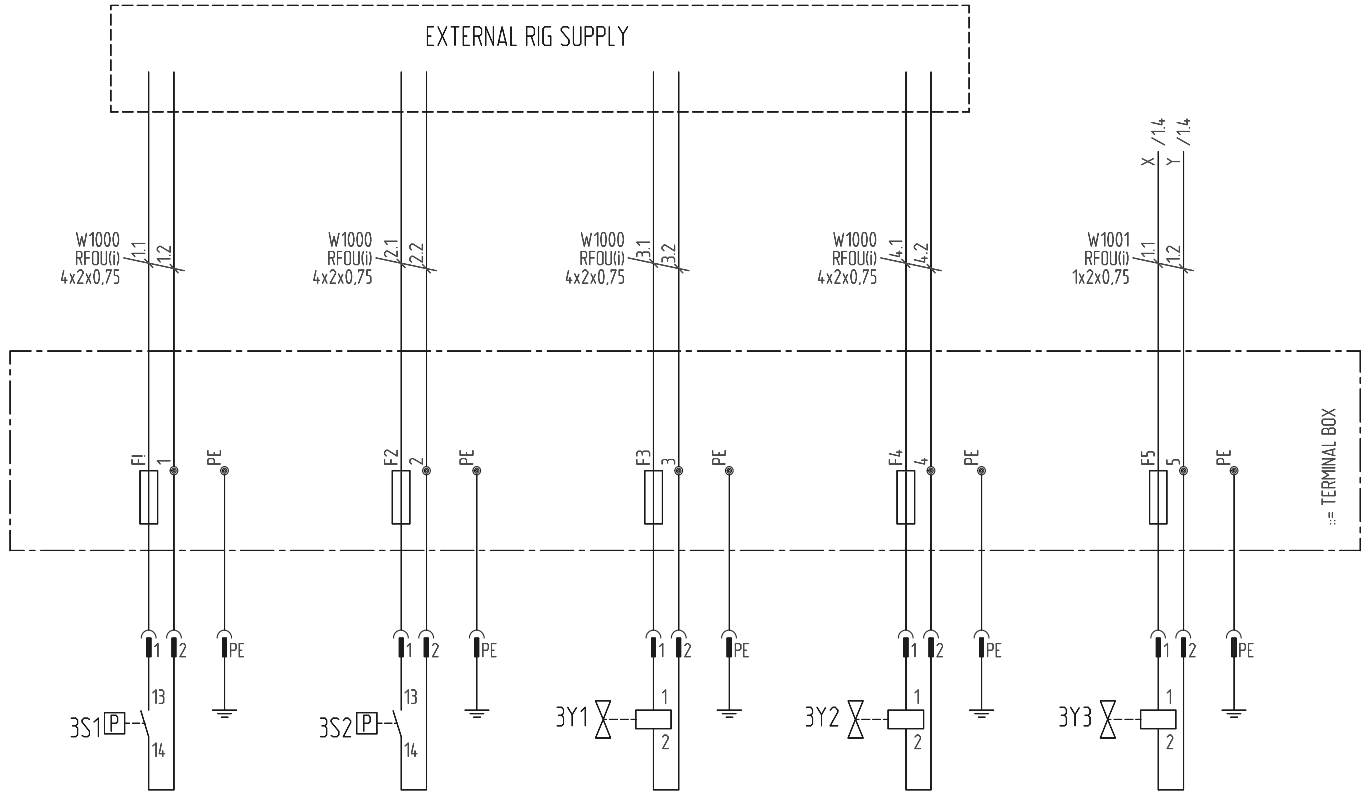
PUSH BUTTON ESC

PUSH BUTTON OK

PLEASE NOTE :

ALL PUSH BUTTONS WITH
GOLD CONTACTS
AND Ex - PROTECTION

				Date	23.02.2011		BLOHM & VOSS Repair GmbH OIL TOOL Division Hamburg - Germany	Operator Push buttons	CIRCUIT DIAGRAM = / +
				Drawn	U.Ahrens				
				Check	J.Rohlfing				GREASE COUNTER Sheet 2
Status	Change	Date	Name	Norm	Norm	Orig. / Repl.	Replaced by		from 3



PRESSURE SWITCH SLIP ARE DOWN

PRESSURE SWITCH SLIP ARE UP

SOLENOID VALVE SLIP UP 24Vdc

SOLENOID VALVE SLIP DOWN 24Vdc

SOLENOID VALVE AIR GREASE PUMP 24Vdc

				Date	23.02.2011		BLOHM & VOSS Repair GmbH OIL TOOL Division Hamburg - Germany	Pressure switches Solenoid valves	CIRCUIT DIAGRAM = +
				Drawn	U.Ahrens				
				Check	J.Rohlfing				CONTROL UNIT Sheet 3
Status	Change	Date	Name	Norm	Norm	Orig. / Repl.	Replaced by		from 3

Geräteliste / specification

Menge Qty.	**Bezeichnung**	**Bennennung** Nomenclature	**Lieferant** supplier
2		Ex-Steuerung GP-1/061	
		Zulassung:	IECEx BKI 06.0010 + IECEx PTB 06.0090
		Ex-Kurzzeichen:	⟨Ex⟩II2G ExdeIICT6 Gb
		Betriebsspannung:	24 V DC
		Betätigungsspg.	24 V DC Impulseingang 24 V DC Ventilausgang
		Max. Vorsicherung:	6 A träge
		Schutzart:	IP 66
		Umgebungstemperatur:	max. -20°C bis +60°C kurzzeitig möglich
		Abmessungen:	227 x 375 x 155 mm (BxHxT)
		Gewicht:	ca. 12 kg
		bestehend aus:	
1	G1	druckfestes Gehäuse GUBW 1 mit Schauscheibe	
1	G2	Anschlußraum 8146/5061	
		Einbauten Druckraum:	
1	1F1	Geräteschutzsicherung 5 x 20 mm, 2,5 A	
1	1F2	Geräteschutzsicherung 5 x 20 mm, 2 A	
1	2V1	Optokoppler PLC-OSC-24DC/24DC/2	
1	2N1	Logo 12/24 RC Sieplus 6AG1052-1MD00-2BA6	
		Einbauten Anschlußraum:	
1	1S1	Steuerschalter 2-polig 0 – I (Silberkontakt)	

TOC

1	2S1	Leuchtdrucktaster weiß, 1s (Siberkontakt)
1	2S2/S3	Doppeldrucktaster ↑ ↓ , je 1s (Goldkontakte)
1	2S4/S5	Doppeldrucktaster ← → , je 1s (Goldkontakte)
1	2S6/S7	Doppeldrucktaster ESC OK , je 1s (Goldkontakte)
4	X1	Reihenklemmen 2,5 qmm Bez. 1, 2, 4, 5
2	X1	PE-Reihenklemmen 2,5 qmm Bez. 3, 6
2	X2	Reihenklemmen 2,5 qmm Bez. 1, 2
		<u>unten:</u>
2		Stv M20 x 1,5 Ø 6 – 13 mm
1		Stv M16 x 1,5 Ø 5 – 9 mm
		Logo inkl. Programmierung als Zähler mit Zeitverzögerung Zähler und Zeiten über Tastatur veränderbar!

TOC

(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres

(3) EC-type-examination Certificate Number:

TÜV 04 ATEX 2472

(4) Equipment: Control and distribution box, type ..-../..

(5) Manufacturer: Mitex Handels- und Produktions GmbH

(6) Address: Holsteinstraße 32, D-23812 Wahlstedt

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH & Co.KG notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requiements relating to the design and construction of equipmentand protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and the test results are recorded in the confidential report Nr. 05 YEX 550672

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + A1 + A2
EN 50018:2000 + A1
EN 50019:2000
EN 50281-1.1 :1998 + A1

(10) If the sign « X » is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:
IIGD Eex de II B or IIC T3 – T6 or T* °C IP **

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TOC

(13) **Schedule**

(14) **EC-TYPE-EXAMINATION CERTIFICATE TÜV 04 ATEX 2472**

(15) **Description of equipment**

The control and distribution box type . . - ../… concerns the combination of empty enclosure with type of protection flameproof enclosure (Ex-d) and increased safety (Ex)e.
Both enclosure populated with electrical or electronical equipment.

Type label

.. - .. / …

Dimension of Ex-e-enclosure sample:	081=Stahl 8146/.081 370=Bernstein CA 370
Dimension of Ex-d-enclosure sample:	01=GUB01, 21=EJB21 02=GUB02, 23=EJB23
Material of Ex-e-enclosure:	A=Aluminium P=Polyester resign

Technical data

The construction of this control and distribution boxes and the marking are different as follows:

Ambient temperature range	-20 °C to +40 °C for T6 -20 °C to +55 °C for T3-T5

TOC

The following housing combinations may be possible:

Table1:

EEx-e housings	dimensions	EEx-d housings IIC GUB (W) 01	EEx-d housings IIC GUB (W) 011	EEx-d housings IIC GUB (W) 02	EEx-d housings IIC GUB (W) 03
CA270	160x160x90	X	X	X	X
CA300	260x160x90	X	X	X	X
CA350	200x230x110	X	X	X	X
CA360	200x230x180	X	X	X	X
CA370	280x230x110	X	X	X	X
CA380	330x230x110	X	X	X	X
CA390	330x230x180	X	X	X	X
CA420	600x230x110	X	X	X	X
CA450	402,5x310x110	X	X	X	X
CA460	402,5x310x180	X	X	X	X
CA470	600x310x110	X	X	X	X
CA480	600x310x180	X	X	X	X
CPS530/8146/.051	170x170x91	X	X	X	X
8146/.061	227x170x91	X	X	X	X
8146/.062	227x170x131	X	X	X	X
CPS550/8146/.S71	340x170x91	X	X	X	X
8146/.072	340x170x131	X	X	X	X
8146/.073	340x170x150	X	X	X	X
CPS570/8146/.081	340x340x91	X	X	X	X
8146/.082	340x340x131	X	X	X	X
8146/.083	340x340x150	X	X	X	X
CPS590/8146/.085	340x340x190				X

Table2:

Eex-e housings	dimensions	EEx-d housing IIB EJB21	EEx-d housing IIB EJB23	EEx-d housing IIB EJB31	EEx-d housing IIB EJB51	EEx-d housing IIB EJB61	EEx-d housing IIB EJB63
CA350	200x230x110	X	X	X	X	X	X
CA360	200x230x180	X	X	X	X	X	X
CA370	280x230x110	X	X	X	X	X	X
CA380	330x230x110	X	X	X	X	X	X
CA390	330x230x180	X	X	X	X	X	X
CA420	600x230x180	X	X	X	X	X	X
CA450	402,5x310x110	X	X	X	X	X	X
CA460	402,5x310x180	X	X	X	X	X	X
CA470	600x310x110	X	X	X	X	X	X
CA480	600x310x180	X	X	X	X	X	X
CPS530/8146/.051	170x170x91	X	X	X	X	X	X
8146/.061	227x170x91	X	X	X	X	X	X
8146/.062	227x170x131	X	X	X	X	X	X
CPS550/8146/.S71	340x170x91	X	X	X	X	X	X
8146/.072	340x170x131	X	X	X	X	X	X
8146/.073	340x170x150	X	X	X	X	X	X
CPS570/8146/.081	340x340x91	X	X	X	X	X	X
8146/.082	340x340x131	X	X	X	X	X	X
8146/.083	340x340x150	X	X	X	X	X	X
CPS590/8146/.085	340x340x190		X	X	X	X	X
8146/.091	681x340x91				X	X	X
8146/.092	681x340x131				X	X	X

TOC

Details for marking

By using seperatly certificated electrical equipment you must add their marking symbol, otherwise it´s the maximum marking. May be restrictive by every construction possible.

*) By using these control and distribution boxes in harzardous areas with gases, vapours or atomise, marked with the temperature class. By using in hazardous areas with dusts or the combination of both areas marked with the maximum surface temperature. Sample: T80°C.

**) The degree of protection of the enclosure are always on the typelabel.

(16) Test report

Nr. 05 YEX 550672

(17) Special conditions for safe use

None.

(18) Essential health and sefety requirements

None additional.

TOC