

SLOVENSKO
ENGLISH

ČISTI PROSTORI CLEANROOMS

**DETEKCIJA IN SIGNALIZACIJA
DETECTION AND SIGNALIZATION**

**RAZSVETLJAVA
LIGHTING**

**ELEMENTI KONTROLE
CONTROL DEVICES**

**SISTEMSKE REŠITVE
SYSTEM SOLUTIONS**



ATEX

T E V E L
SINCE 1990

ČISTI PROSTORI DETEKCIJA IN SIGNALIZACIJA

CLEANROOMS DETECTION AND SIGNALIZATION



Detektor kisika MPS-05/NG (R1 in R1-Ex)

Detektor kisika tip MPS-05/NG (R1 in R1-Ex) je namenjen detekciji koncentracije kisika v zraku. Okoliški zrak se difuzno širi skozi sinterno zaščito do merilnega senzorja, ki glede na princip delovanja zazna koncentracijo kisika. Izmerjena vrednost je prikazana na LCD prikazovalniku, ob doseženi alarmni meji se vklopi sirena z bliskavico. Detektor ima tudi izhod 4–20 mA za povezavo na nadzorni sistem.

- Napajanje: 12V DC / 110 mA za norm. in preko zener bariere za Ex-izvedbo
- IP 65

Protieksplzijska zaščita:
II 3G Ex ic op is IIC T4 Gc

Oxygen detector MPS-05/NG (R1 & R1-Ex)

Oxygen detector type MPS-05/NG (R1 & R1-Ex) is designed for detection of oxygen level in air. Ambient air is diffusely spread through sinter's protection to the measurement sensor. Depending to the operation principle, sensor detects concentration of oxygen. Measured values are shown on LCD display, when alarm level is reached alarm hooter and beacon is activated. Detector generate 4–20 mA output for connection to remote supervisor systems.

- Power: 12V DC / 110 mA – norm. & through zener barrier for Ex version
- IP 65

Explosion protection:
II 3G Ex ic op is IIC T4 Gc



Detektor eksplozivnih plinov DEG-2(R), detektor strupenih plinov DTG-2(R)

Detektorja plinov tip DEG-2(R) in tip DTG-2(R) sta namenjena detekciji eksplozivnih in zdravju škodljivih plinov v zraku. Okoliški zrak se difuzno širi skozi sinterno zaščito do merilnega senzorja, ki glede na princip delovanja zazna koncentracijo določenega plina. Izmerjena vrednost se prek elektronsko procesorskega vezja pretvori v linearen standardni tokovni izhod 4–20 mA. Naprava, ki ni montirana v eksplozijsko nevarno okolje, ima lahko še dodatne tri relejske izhode (npr. napaka, alarm1, alarm2).

Wi-fi dostop do nadzora in kalibracije detektorja. Povezava z MX7, MX6000, MX5000 alarmnimi centralami.

Protieksplzijska zaščita: II 3G Ex ec IIC T5 Gc

Detector of explosive gases type DEG-2(R), detector of toxic gases type DTG-2(R)

Gas detectors type of DEG-2(R) and type of DTG-2(R) are intended for detection of explosive and toxic gases in the air. Ambient air is diffusely spread through sinter's protection to the measurement sensor. Depending to the operation principle, sensor detects concentration of target gas. Measurement value is converted with electronic circuit to the standard linear current output 4–20 mA.

The device which isn't mounting in explosive atmosphere may have three additional relay outputs (for example: error, alarm1, alarm2). Wi-fi access to monitoring and calibration of the detector.

Connection with MX7, MX6000, MX5000 alarm units.

Explosion protection: II 3G Ex ec IIC T5 Gc



Semafor TE-xx

Semafor TE-xx je namenjen svetlobni LED signalizaciji različnih tehnoloških stanj v industrijskem okolju.

Naprava je konstruirana za vgradnjo v votle stene. Po montaži naprave se ta prekrije (prelepi) s samolepilno zaščitno poliestersko nalepko, ki služi kot zaščita proti vdoru prahu in vode v napravo.

Glavne lastnosti

- IP65 (po montaži zaščitne folijske nalepke)
- 3 tipi semaforjev
- Napajanje: 20–28 VDC
- Poraba toka: 65 mA, 45 mA, 65 mA

Signal light TE-xx

Signal light TE-xx/Ex is intended for LED optical signalization of different alarm or technological stages in industrial environment.

Signalization device is designed for montage in panel walls (hollow walls). After montage device should be covered with label which is also designed as IP protection for the device.

Features

- IP65 (with installed label)
- 3 types of signal lights
- Power supply: 20–28 VDC
- Consumption: 65 mA, 45 mA, 65 mA



Semafor TE-xx/Ex

Semafor TE-xx/Ex je namenjen svetlobni LED signalizaciji različnih tehnoloških stanj v industrijskem okolju, kot tudi eksplozijsko ogroženem območju z Ex cono 2.

Naprava je konstruirana za vgradnjo v votle stene. Po montaži naprave se ta prekrije (prelepi) s samolepilno zaščitno poliestersko nalepko, ki služi kot zaščita proti vdoru prahu in vode v napravo.

Glavne lastnosti

- IP65 (po montaži zaščitne folijske nalepke)
- 3 tipi semaforjev
- Napajanje: 20–28 VDC
- Poraba toka: 65 mA, 45 mA, 65 mA

Protieksplozijska zaščita:

II 3G Ex mc op is II C T4 Gc

Signal light TE-xx/Ex

Signal light TE-xx/Ex is intended for LED optical signalization of different alarm or technological stages in industrial environment as well in an Ex zone 2 explosive area.

Signalization device is designed for montage in panel walls (hollow walls). After montage device should be covered with label which is also designed as IP protection for the device.

Features

- IP65 (with installed label)
- 3 types of signal lights
- Power supply: 20–28 VDC
- Consumption: 65 mA, 45 mA, 65 mA

Explosion protection:

II 3G Ex mc op is II C T4 Gc



Semafor TE-G/R

Semafor TE-G/R je namenjen svetlobni LED signalizaciji kontrole prehodov v industrijskem okolju.

Naprava je konstruirana za vgradnjo v votle stene. Po montaži naprave se ta prekrije (prelepi) s samolepilno zaščitno poliestersko nalepko, ki služi kot zaščita proti vdoru prahu in vode v napravo.

Glavne lastnosti

- IP65 (po montaži zaščitne folijske nalepke)
- 1 tip semaforja – zelena/rdeča
- Napajanje: 20–28 VDC
- Poraba toka: 45 mA

Signal light TE-G/R

Signal light TE-G/R is intended for LED optical signalization of interlocks in industrial environment.

Signalization device is designed for montage in panel walls (hollow walls). After montage device should be covered with label which is also designed as IP protection for the device.

Features

- IP65 (with installed label)
- 1 type of signal lights – green / red
- Power supply: 20–28 VDC
- Consumption: 45 mA

ČISTI PROSTORI RAZSVETLJAVA

CLEANROOMS LIGHTING



Vgradna linearna LED svetilka

SIF 152 / 252 LED
SIF 152 / 252 LED-E

Uporaba v industrijskih objektih in čistih prostorih. Z montažo na višinah do 6 metrov zagotavljajo izredno kvaliteto in visoko osvetlitev.

Svetilke z LED svetlobnim virom zamenjujejo prejšnjo generacijo svetilk za fluorescentne cevi.

Z vgrajenim varnostnim modulom zagotavljajo tudi delovanje v primeru izpada napajanja za čas od 1 do 3 ur.

Za uporabo v conah 1,21 in 2,22

Protieksplzijska zaščita:

II 2GD - Ex db eb mb IIC T6 Gb,
Ex tb IIIC T80°C Db IP66

Recessed linear LED light fitting

SIF 152 / 252 LED
SIF 152 / 252 LED-E

For use in industrial facilities and clean rooms. With installation up to 6 meters light fittings assures high quality illumination.

Light fittings with LED source replace previous generation for fluorescent tubes. With built-in emergency module light fittings remain in operation for duration 1 – 3 hours.

For zone 1,21 and 2,22

Explosion protection:

II 2GD - Ex db eb mb IIC T6 Gb,
Ex tb IIIC T80°C Db IP66



Vgradna linearna LED svetilka

SIF 60 LED
SIF 60 LED-E

Uporaba v industrijskih objektih in čistih prostorih. Z montažo na višinah do 6 metrov, zagotavljajo izredno kvaliteto in visoko osvetlitev.

Svetilke z LED svetlobnim virom zamenjujejo prejšnjo generacijo svetilk za fluorescentne cevi.

Z vgrajenim varnostnim modulom zagotavljajo tudi delovanje v primeru izpada napajanja za čas od 1 do 3 ur.

Za uporabo v conah 1,21 in 2,22

Protieksplzijska zaščita:

II 2GD - Ex db eb mb IIC T6 Gb,
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Recessed linear LED light fitting

SIF 60 LED
SIF 60 LED-E

For use in industrial facilities and clean rooms. With installation up to 6 meters light fittings assures high quality illumination.

Light fittings with LED source replace previous generation for fluorescent tubes. With built-in emergency module light fittings remain in operation for duration 1 – 3 hours.

For zone 1,21 and 2,22

Explosion protection:

II 2GD - Ex db eb mb IIC T6 Gb,
Ex tb IIIC T80°C Db IP66

ČISTI PROSTORI ELEMENTI KONTROLE

CLEANROOMS CONTROL DEVICES



Ex kontrolnik ozemljitve EES1-RO/SS

Kontrolnik ozemljitve je namenjen izvedbi in hkrati tudi kontroli ozemljitve premičnih naprav. Ob priklopu klešč kontrolnik izmeri povezavo ozemljenih elementov in stanje signalizira z zeleno svetilko. Kontrolnik vsebuje relejski izhod za primer krmiljenja električnih naprav (npr. črpalk, ostalih naprav).

Napajanje: 230V AC, relejski izhod

Protieksplzijska zaščita:

II 3G Ex dc ec nA [ia] IIC T4 Gc, IP 66

Ex grounding control device EES1-RO/SS

Grounding control device is designed for grounding and control of grounded portable devices.

When clamps are connected to portable device grounding control device measure connection with main ground and show status with green signal lamp. Grounding control device provide relay output which can be used for remote connection of electrical equipment (exa. pumps, other devices)

Power: 230V AC, relay output

Explosion protection:

II 3G Ex dc ec nA [ia] IIC T4 Gc, IP 66



Ex krmilne kombinacije

Krmilne kombinacije služijo nadzoru in upravljanju naprav in tehnoloških procesov.

Krmilne kombinacije so lahko sestavljene iz različnih velikosti ohišij z vgradnjo komponent, kot so signalne svetilke, piskalci, tipkala, tipke za izklop v sili, stikala, ipd.

Napajanje: AC / DC

Protieksplzijska zaščita:

II 2G Ex db eb mb IIC T6 Gb, IP 66

Ex local control stations

Local control stations are designed for controlling devices or technology process.

Local control stations are combined from different housing dimensions with installed components as signal lamps, buzzers, push buttons, emergency push buttons, switches, etc.

Power: AC / DC

Explosion protection:

II 2G Ex db eb mb IIC T6 Gb, IP 66

ČISTI PROSTORI SISTEMSKE REŠITVE

CLEANROOMS SYSTEM SOLUTIONS



Računalniki v Ex izvedbi (prenosni in stacionarni) LCD prikazovalniki Mobilni telefoni Stacionarni telefoni/intercom

Sodobni proizvodni procesi zahtevajo tudi v Ex okolju uporabo različnih komponent in izdelkov, ki zagotavljajo nemoten in varen proizvodni proces kakor tudi nadzor nad procesom.

Za uporabo v conah 1/21 in 2/22, delno možno tudi v coni 0/20

Različne vrste komunikacijskih protokolov (žične in brezžične komunikacije)
Ethernet/IP, Profibus, Profinet, Modbus, HART ...

Temperaturno območje: -20 °C do +40 °C (standard), možne tudi posebne izvedbe

Material ohišja: termoplastika, poliester, nerjaveče jeklo

PC in Ex protection (stationary and portable – notebook/ tablets)

LCD displays

Mobile phones

Stationary phones / intercom systems

Modern production processes require also for Ex hazardous area different components and products to be installed for smooth and safety production process as well as process control.

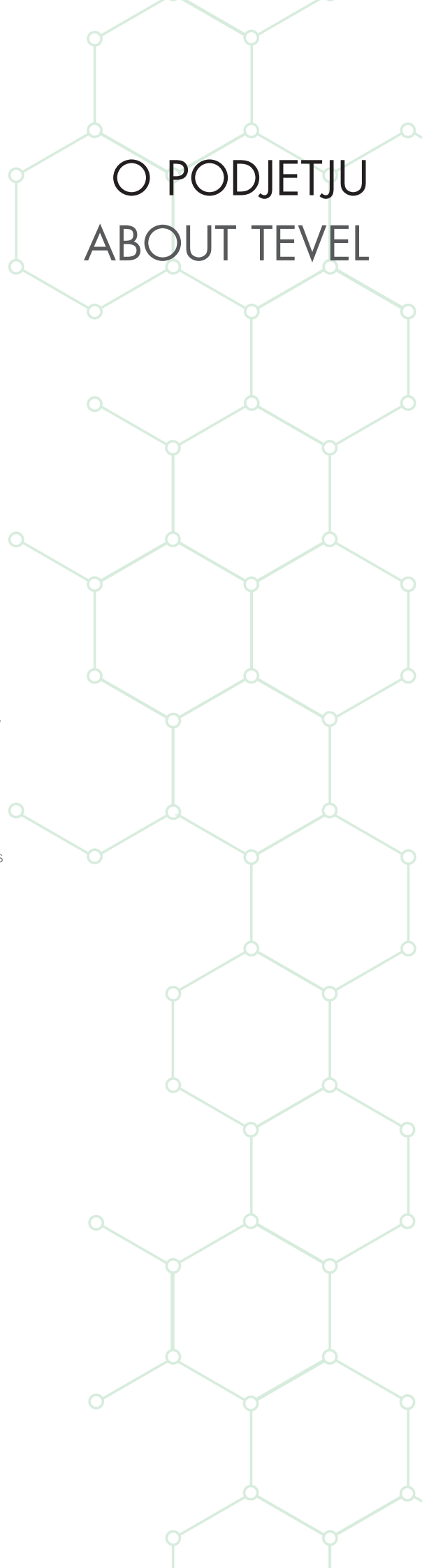
Following components can be used:

For use in Ex zones 1/21 in 2/22, partly possible also in zone 0/20

Different types of communication protocols (wire or wireless communications)
Ethernet/IP, Profibus, Profinet, Modbus, HART, ...

Ambient temperature: -20°C to +40°C (standard), available also some other options

Enclosure material: thermoplastic, polyester, stainless steel



O PODJETJU ABOUT TEVEL

Smo podjetje z dolgoletnimi izkušnjami in znanjem pri načrtovanju in izvajanju tehnične varnosti v rudarstvu in industriji.

Bogate izkušnje s področja načrtovanja in izvajanja protieksplzijske zaščite kot podjetje za inženiring, konstruiranje, proizvodnjo, preizkušanje in servisiranje so nas vodile k skupnim ciljem NAŠA KVALITETA – VAŠA VARNOST. Upoštevanje tega nam omogoča doseganje lojalnosti, ki jo razumemo v našem podjetju kot vzajemen proces – zadovoljen kupec je tako odgovornost slehernega zaposlenega v podjetju. Razvoj novih izdelkov je srce naše ponudbe, kajti le popoln prodajni program in brezhibna storitev sta lahko temelj resnega in dolgoročnega partnerstva.

Naša ključna vrednota je odgovornost do ljudi, narave, časa, prihodnosti ... Dolgoletno znanje vlagamo v razvoj novih proizvodov in storitev. Ne čakamo, ampak iščemo, inoviramo in izboljšujemo, kar nam prinaša nove rešitve in nova znanja, ki jih s pridom uporabimo pri svojem delu.

Tevel has specialised in finding innovative solutions for gas and leak detection problems in mining and other industries for over 30 years. No application is too large or small for us.

Based in Slovenia, central Europe, we conceive, design and manufacture instrumentation and solutions using technology that has been comprehensively researched, is innovative, easy to use, reliable and cost effective.

We aim to be a pleasure to deal with, to do what we say, to listen carefully to our customers, to understand their requirements and markets – and then give best advice. We also aim to under-commit and over-deliver and always to add significant value to our customers or partners.



NAŠA KVALITETA – VAŠA VARNOST
OUR QUALITY – YOUR SAFETY



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