

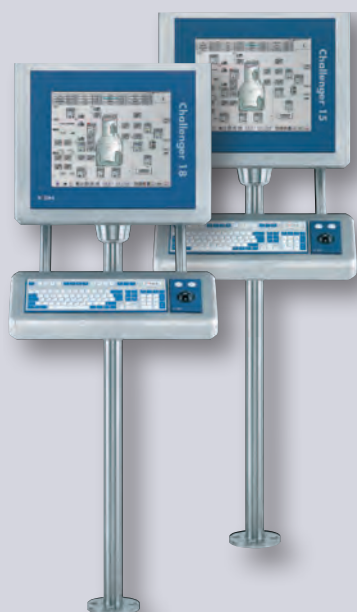


# CHALLENGER

## Remote PC Terminals

For modern Operation and Visualization on site  
in hazardous areas Zone 1 / 2 and Zone 22  
(Class 1, Zone 1 / Class 1, Div.2)

**COOPER** Crouse-Hinds



A member of the  
MTL Instruments group

# CHALLENGER 15i Remote PC-Terminal CHALLENGER 18i Remote PC-Terminal

## BENEFITS

- Intrinsically safe certified components for operation and visualization
- Modular configuration
- Trouble-free PC hardware changes and software updates
- Ambient Temperature -10° C to +60° C
- Low installation costs
- Excellent and bright picture quality
- Savings of software costs by cascading up to 4 CHALLENGER to one PC

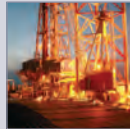
## APPLICATIONS



PHARMACEUTICAL  
INDUSTRY



CHEMICAL  
INDUSTRY



OIL & GAS



AUTOMOBILE  
PRODUCTION



WASTE WATER  
TREATMENT PLANT



COAL FIRED  
POWER PLANT



INCINERATION  
PLANT



OTHER  
PROCESSES

## CERTIFICATES



ATEX



UL/C-UL



IECEX



TIIS



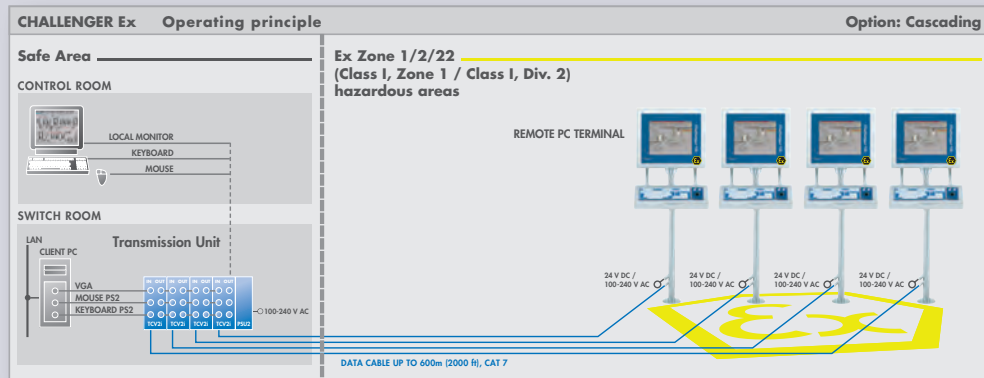
NEPSI...

## tested by:

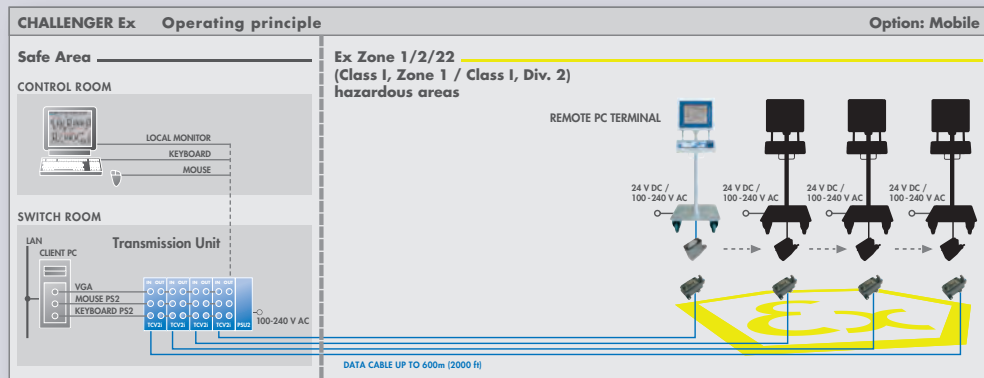


# Operating Principles of Challenger

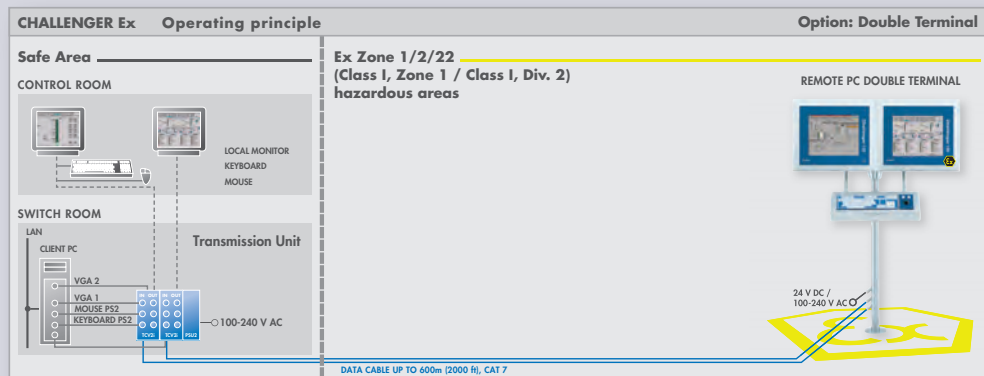
## OPTION: CASCADING



## OPTION: MOBILE



## OPTION: DOUBLE TERMINAL



## Visualisation/ Identification

## Operation



### TFT Display

- Intrinsically safe panel-mount module
- Ingress protection IP66 from front / NEMA 4x
- 15" screen diagonal (up to XGA)
- 19" screen diagonal (up to SXGA)
- Capable of displaying more than 16 million colors
- Protection class II 2G EEx ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/NEPSI...



### OPTIONAL HIGH BRIGHTNESS Display

- High-brightness 650cd/m<sup>2</sup>
- Brightness control via automatic sensor or manually
- Protection class II 2G EEx ib IIC T4
- ATEX/UL/TIIS/IECEX/NEPSI...



### Card Reader

- Intrinsically safe panel-mount module
- Ingress protection IP66 from front /NEMA 4X
- Non-contact identification
- Mifare protocol as standard (others on request)
- Suitable for the majority of company ID's
- Connection: RS 232 serial interface
- Protection class II 2G EEx ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/NEPSI...



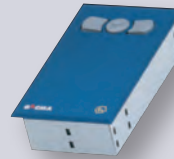
### OPTIONAL TOUCH SCREEN Display

- Touch Screen as foil or glass version
- Resistive touch technology
- 5-wire technology
- Can be operated with gloves, pen and fingers
- Connection: RS 232 serial interface
- Protection class II 2G EEx ib IIC T4
- ATEX/UL/TIIS/IECEX/NEPSI...



### Keyboard

- Intrinsically safe panel-mount module
- Ingress protection IP66 / NEMA 4X from front
- Foil protected short stroke keyboard
- 105 keys, IBM\* compatible
- Standard layouts: German, English, French
- More than 30 languages on request
- Special layouts on request
- Polyesterfoil printed from behind - resistant against many solvents
- Protection class Ex II 2G Ex ib IIC T4
- Protection class DUST: Ex II 2D Ex tD A21 IP 6X T 120°C
- ATEX/UL/C-UL/TIIS/IECEX/NEPSI...



### Mouse

- Intrinsically safe panel-mount module
- Ingress protection IP66 from front / NEMA 4X
- 4-step pressure-sensitive mouse guidance
- 2 pushbuttons
- Protection class II 2G EEx ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/NEPSI...



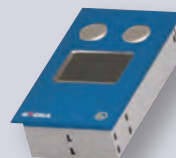
### Trackball

- Intrinsically safe panel-mount module
- Ingress protection IP65 from front
- 55 mm ball
- 2 pushbuttons
- Protection class II 2G EEx ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/NEPSI...



### Joystick

- Intrinsically safe panel-mount module
- Ingress protection IP66 from front / NEMA 4X
- High-precision mouse guidance
- Wearless up to 15 million actuations
- Extremely low-maintenance
- 2 pushbuttons, optionally 3 pushbuttons
- Button-in-joystick function optionally
- Protection class GAS: II 2G EEx ia IIC T4
- Protection class DUST: Ex II 3D T 60°C IP 6X
- ATEX/TIIS/IECEX/NEPSI...



### Touch Pad

- Intrinsically safe panel-mount module
- Ingress protection IP 66 from front/ NEMA 4X
- Special resistive foil
- High-definition resolution - up to 200dpi
- 2 pushbuttons
- Can be operated with gloves, pen and fingers
- Protection class GAS: II 2G EEx ia IIC T4
- Protection class DUST: Ex II 3D T 60°C IP 6X
- ATEX/TIIS/IECEX/NEPSI...

## Operating Principles Data transmission extended to Touch Screen and Card Reader

Data transmission: Standard

Data connection at PC:

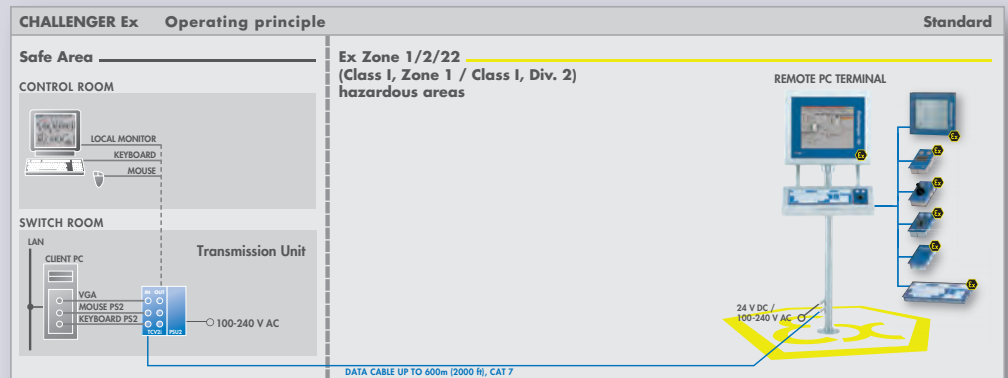
- Connection: VGA, PS2 Mouse, Keyboard at PC

Data transmission:

- Via TCV2i transmission unit and Twisted-pair data cable CAT7
- TCV2i transmission unit & PSU2 power supply pre-mounted at Rack 42 / Rack 84 (100-240V AC)
- Connection: VGA/Keyboard/Mouse locally as an option
- Cascadable up to 4 transmission units / CHALLENGER

Connection at Remote PC-Terminal:

- Data cable mounted at 10-pin screw socket at the display
- Connection: 24V DC at PSU14i or 100-240 V AC at PSU150i



Data transmission:

- Extended to RS232 (COM Port) for Touch Screen / Card Reader

Data connection at PC:

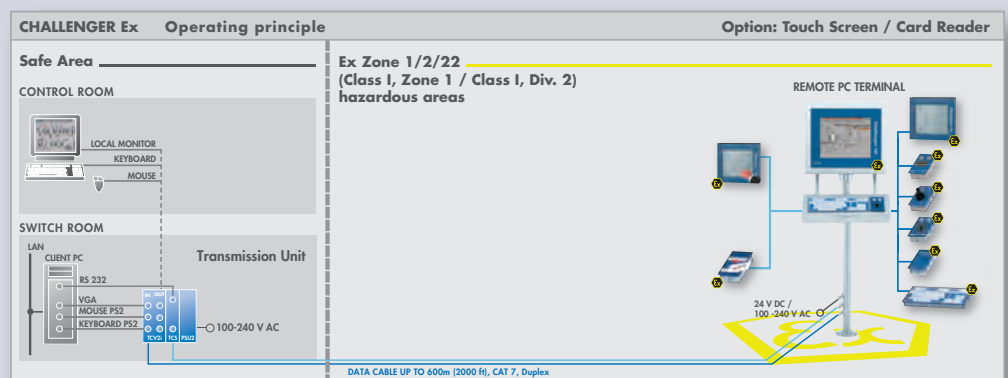
- Connection at the PC via RS232

Data transmission:

- Via RS232 transmission unit (TCS/RSI card) and 2nd twisted-pair data cable CAT7

Data connection PC-Terminal:

- Mounted at 12-pin screw socket at the display



# CHALLENGER Remote PC-Terminals

## CHALLENGER 15i Remote PC-Terminal CHALLENGER 18i Remote PC-Terminal



CHALLENGER PC Terminals are an optimum solution for demanding tasks in on-site operation and visualization in Zone 1 / 2 / 22 hazardous areas.

In the SAFE area the CHALLENGER transmission unit picks up the data from a PC via VGA / KEYBOARD / PS2 MOUSE and transmits the data up to 600m /2000ft to the CHALLENGER Terminal on site – in hazardous area zone 1 / 2 / 22. High quality bright images are visualized at the terminal.

CHALLENGER Terminals can be configured in a modular manner to meet with the plant installation requirements. All the components including the display, touch screen, keyboard, pointing devices, etc. - are certified for use in hazardous areas as control panel-mounted modules and can be mounted independently into various enclosures / walls or into our CHALLENGER FHP standard enclosure which provides environmental protection.

Intrinsically safe Remote PC terminals for hazardous areas Zone 1 / Zone 2 / Zone 22 (non-conductive dusts)

Certified by ATEX, IECEx, TIIS, FTZU, UL/C-UL (Class I, Zone 1 / Class I, Div. 2), NEPSI ...

## Enclosures

### FHP STANDARD ENCLOSURE



- Hygienic, ergonomic Field Desk Enclosure to house the Display, Keyboard, Mouse or Trackball, Card Reader
- Keyboard inclined by 30°
- Protection system IP 66 / NEMA 4X
- Stainless Steel 1.4301 (1.4404 / 316L opt.)
- Polished to 240 granulation



Wall mounting

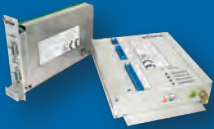


Floor mounting



Ceiling mounting

### Interfaces and Camera



#### RS 232 Interface

- Fully duplex-capable RS 232 Interface
- Intrinsically safe model or industry model including separate data cable for the connection of all RS 232-compatible equipment
- Protection class:  
Transmission unit: II 2G EEx ib IIC T4  
Receiving unit: II (2)G [EEx ib] IIC
- ATEX, UL, C-UL, TISS ... certified



#### Video Camera

- Ex-protected Video Camera as Ex-d model including separate CHALLENGER Interface UVI
- Ambient Temperature -20°C to +50°C
- Ingress protection IP65
- Protection class II 2G EEx de IIC T6

### SPECIAL ENCLOSURES



VHH



VH



DH



DTH



SH 1



SH 2



SH 3



SH 4



SH 5



SH 6



SH 7



SH 8



SH 9



SH 10



SH 12



SH 15

### Options and Accessories



#### Key Switch SW2

- Key switch integrated into the Rack 42 / Rack 84
- To lock Keyboard / Mouse / Trackball on the CHALLENGER or to lock the control room operation



#### Key Switch SW1

- Key Switch for locking the Keyboard / Mouse / Trackball on the CHALLENGER
- Integrated in the CHALLENGER enclosure
- Ingress protection IP 67 from front / NEMA 4X



#### Emergency Stop Button

- Emergency Stop Button to turn off individual connections (local connection)
- Ingress protection IP 65 from front
- Protection class II 2G EEx de IIC T6

# SALES OFFICES

## AUSTRALIA

MTL Instruments Pty Ltd, 9 /12 Billabong Street,  
Stafford, Queensland 4053  
Australia

Tel: + 61 1300 308 374 Fax: + 61 1300 308 463  
E-mail: [enquiries@mtlaus.com.au](mailto:enquiries@mtlaus.com.au)

## CHINA

Cooper Electric (Shanghai) Co. Ltd. Room 2001, China Life Tower,  
16 Chao Yang Men Wai Street,  
Chao Yang District, Beijing, China 100020

Tel: + 86 10 5980 0288 Fax: + 86 10 8562 5725  
E-mail: [bjsales@mtl-inst.cn](mailto:bjsales@mtl-inst.cn)

## FRANCE

MTL Instruments sarl, Les Carrés du Parc  
10 rue des Rosiéristes, 69410 Champagne au Mont d'Or  
France

Tel: + 33 (0)4 78 64 98 32 Fax: + 33 (0)4 78 35 79 41  
E-mail: [info@mtl-inst.fr](mailto:info@mtl-inst.fr)

## GERMANY

MTL Instruments GmbH, An der Gumpesbrücke 17  
D-41564 Kaarst, Germany

Tel: + 49 (0)2131 718930 Fax: + 49 (0)2131 7189333  
E-mail: [info@mtl.de](mailto:info@mtl.de)

## INDIA

MTL India, No.36, Nehru Street  
Off Old Mahabalipuram Road  
Sholinganallur, Chennai - 600 119, India

Tel: + 91 (0) 44 24501660 /24501857 Fax: + 91 (0) 44 24501463  
E-mail: [sales@mtlindia.com](mailto:sales@mtlindia.com)

## ITALY

MTL Italia srl, Via Cantù 11  
I - 20092 Cinisello Balsamo MI, Italy

Tel: + 39 (0)2 61802011 Fax: + 39 (0)2 61294560  
E-mail: [info@mtl-inst.it](mailto:info@mtl-inst.it)

## JAPAN

Cooper Crouse-Hinds Japan KK,  
MT Building 3F  
2-7-5 Shiba Daimon, Minato-ku,  
Tokyo, Japan 105-0012

Tel: + 81 (0)3 6430 3128 Fax: + 81 (0)3 6430 3129  
E-mail: [info@cooperindustries.jp](mailto:info@cooperindustries.jp)

## SOUTH KOREA

Cooper Crouse-Hinds Korea  
12F, Vision Tower  
707-2 Yeoksam-Dong Gangnam-Gu,  
Seoul 135-080, South Korea.

Tel: + 82 2 3484 6795 Fax: + 82 2 3484 6778  
E-mail: [MTLKorea-enquiry@cooperindustries.com](mailto:MTLKorea-enquiry@cooperindustries.com)

## NETHERLANDS

MTL Instruments BV  
Terheijdenseweg 465, 4825 BK Breda  
The Netherlands

Tel: +31 (0) 76 7505360 Fax: +31 (0) 76 7505370  
E-mail: [mtl.benelux@cooperindustries.com](mailto:mtl.benelux@cooperindustries.com)

## SINGAPORE

Cooper Crouse-Hinds Pte Ltd  
No 2 Serangoon North Avenue 5, #06-01 Fu Yu Building  
Singapore 554911

Tel: + 65 6 487 7887 Fax: + 65 6 487 7997  
E-mail: [sales@mtlsing.com.sg](mailto:sales@mtlsing.com.sg)

## UNITED ARAB EMIRATES

MTL Instruments, Villa No. 4, Sector 2-17  
Street 6, PO Box 53234  
Abu Dhabi, UAE

Tel: + 971 2 446 6840 Fax: + 971 2 446 6841  
E-mail: [mtlgulf@mtl-inst.com](mailto:mtlgulf@mtl-inst.com)

## UNITED KINGDOM

Measurement Technology Limited,  
Great Marlings, Butterfield, Luton  
Beds LU2 8DL

Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283  
E-mail: [enquiry@mtl-inst.com](mailto:enquiry@mtl-inst.com)

## AMERICAS

Cooper Crouse-Hinds MTL Inc.  
3413 N. Sam Houston Parkway W.  
Suite 210, Houston TX 77086, USA

Tel: + 1 281-571-8065 Fax: + 1 281-571-8069  
E-mail: [csinfo@mtl-inst.com](mailto:csinfo@mtl-inst.com)

## GECMA SERVICE

All product information / technical data sheets / drawings and a configuration tool to optimize your human-machine interface can be found at: [www.GECMA.com](http://www.GECMA.com)



Configurator



Products



Calls returned within  
24 hours



Fast delivery time



News



Support  
Technical drawings



Offers made  
within 48 hours



Configure your  
Terminal at  
[www.GECMA.com](http://www.GECMA.com)

## HEADQUARTERS

GECMA Components GmbH,  
Heisenbergstrasse 26-40, D-50169 Kerpen, Germany. Tel: +49 2237 6996-0 Fax: +49 2237 6996-99

[www.gecma.com](http://www.gecma.com)

e-mail: [info@gecma.com](mailto:info@gecma.com)

**COOPER Crouse-Hinds**