

Ex Zone 1 / 2 (Gas)  
Ex Zone 22 (Dust)  
Hazardous areas



# CHALLENGER Remote PC Terminals



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

- Pharmaceutical Industry
- Chemical Industry
- Oil & Gas
- Biotechnology
- Food & Beverages
- Life Science
- And many more...

**G CMA**

A member of The MTL Instruments Group plc

# 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 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 provide environmental protection.

**Intrinsically safe Remote PC terminals for hazardous areas Zone 1 / Zone 2 / Zone 22**

Certified by ATEX, IECEx, TIIS, FTZU, UL/C-UL (Class I, Zone 1 / Class I, Div. 2), GOST-R GGTN (B-I / B-Iia / B-Ir / B-I<sub>6</sub> / B-IIa), NEPSI ...

## APPLICATION



PHARMACEUTICAL  
INDUSTRY



CHEMISTRY



OIL & GAS



AUTOMOBILE  
PRODUCTION



WASTEWATER  
TREATMENT PLANT



COAL-FIRED  
POWER PLANT

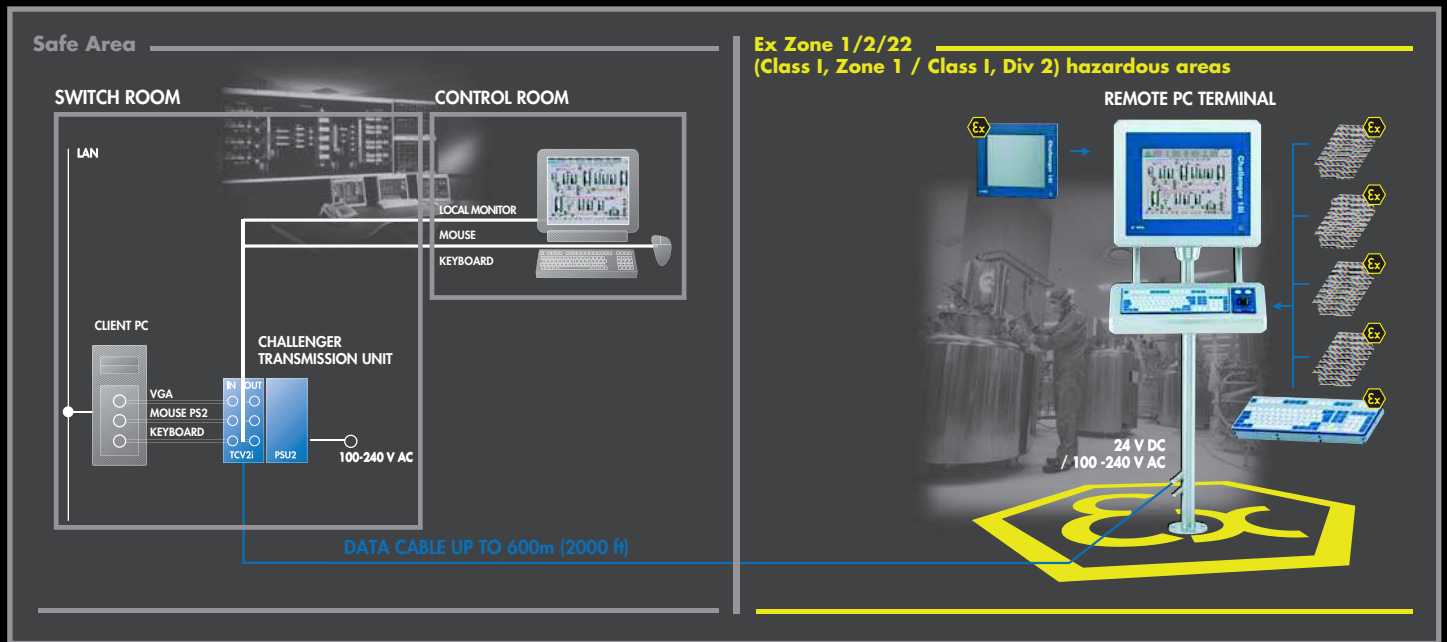


INCINERATION  
PLANT



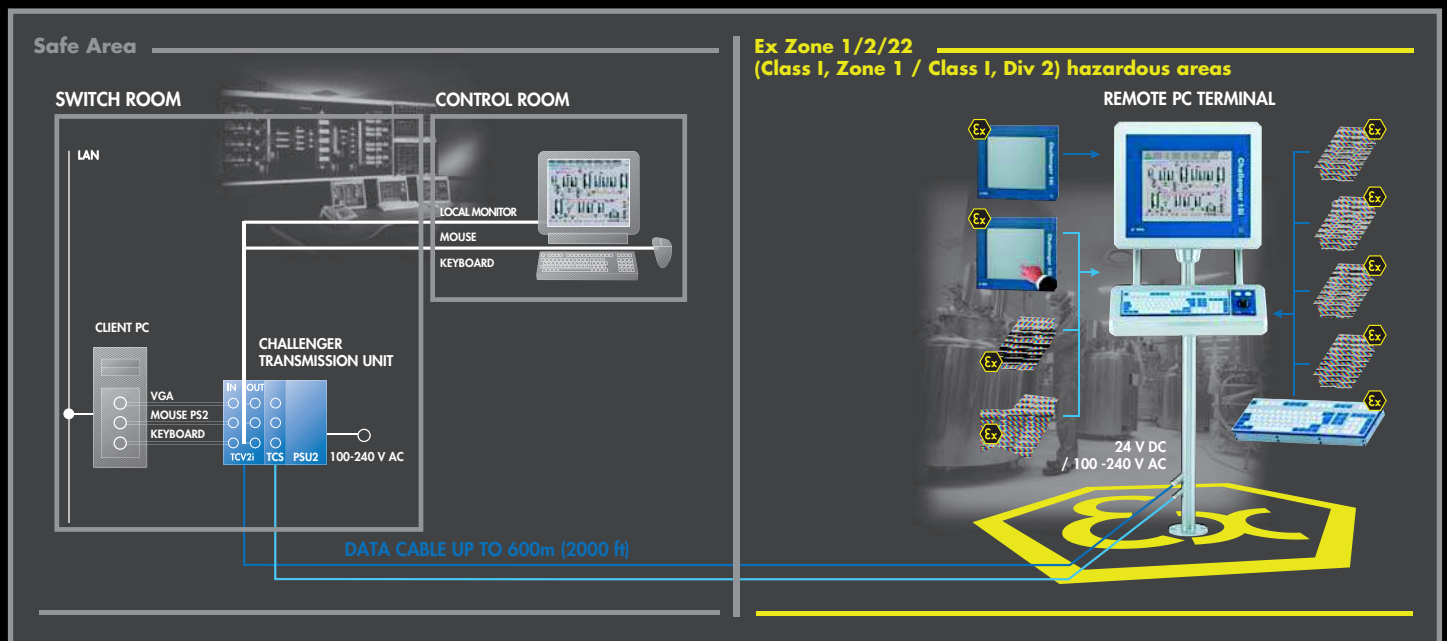
OTHER

# OPERATING PRINCIPLE



Data connection at PC:	Data transmission:	Connection at PC Terminal:
<ul style="list-style-type: none"> <li>• Connection: VGA, PS2 Mouse, Keyboard at PC</li> </ul>	<ul style="list-style-type: none"> <li>• Via TCV2 transmission unit and Twisted-pair data cable CAT7</li> </ul>	<ul style="list-style-type: none"> <li>• Data cable mounted at 10-pin screw socket at the display</li> </ul>
	<ul style="list-style-type: none"> <li>• TCV2i transmission unit &amp; PSU2 power supply pre-mounted at Rack 42 / Rack 84 (100-240V AC)</li> </ul>	<ul style="list-style-type: none"> <li>• Connection: 24V DC at PSU14i or 100-240 V AC at PSU150i</li> </ul>
	<ul style="list-style-type: none"> <li>• Connection: VGA/Keyboard/Mouse locally as an option</li> </ul>	
	<ul style="list-style-type: none"> <li>• Cascadable up to 4 transmission units / CHALLENGER</li> </ul>	

## Data transmission extended to Touch Screen / - Card Reader / - Fingerprint



Data connection PC:	Data transmission:	Data connection PC Terminal:
<ul style="list-style-type: none"> <li>• Connection at the PC via RS232</li> </ul>	<ul style="list-style-type: none"> <li>• Via RS232 transmission unit (TCS/RSI card) and 2nd twisted-pair data cable CAT7</li> </ul>	<ul style="list-style-type: none"> <li>• Mounted at 12-pin screw socket at the display</li> </ul>

(Subject to modifications and amendments / no liability for misprints and errors.)



# FLEXIBLE MODULAR DESIGN



## VISUALIZATION



### 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 Ex II 2G Ex ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /NEPSI...



### OPTION: High-Brightness Display

- High-brightness 650cd/m<sup>2</sup>
- Brightness control via sensor automatically or manually
- Protection class Ex II 2G Ex ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /NEPSI...

## OPERATION



### OPTION: Touch Screen

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



### Touch Pad

- Intrinsically safe Panel-mount module
- Ingress protection IP 66 from front /NEMA 4X
- Special resistive foil
- Optimum resolution – 200 dpi
- 2 pushbuttons
- Can be operated with gloves, pen and fingers
- Protection class Ex II 2G Ex ia IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /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 Ex II 2G Ex ia IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /NEPSI...



### Trackball

- Intrinsically safe Panel-mount module
- Ingress protection IP65 from front
- 55 mm ball
- 2 pushbuttons, optionally 3 pushbuttons
- Protection class Ex II 2G Ex ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /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
- TECHNOPLAST - resistant against many solvents
- Protection class Ex II 2G Ex ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /NEPSI...



### Mouse

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

## ACCESS CONTROLS



### 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 IDs
- Connection: RS 232 serial interface
- Protection class Ex II 2G Ex ib IIC T4
- ATEX/UL/C-UL/TIIS/IECEX/GOST-R GGTN /NEPSI...

"CFR 21 part 11"



### Fingerprint sensor

- Intrinsically safe Panel-mount module
- Ingress protection IP66 from front /NEMA 4X
- Contact identification < 500 dpi
- Via C-MOS sensor
- Connection: RS 232 serial interface
- Protection class Ex II 2G Ex ib IIC T4
- ATEX / GOST-R GGTN

"CFR 21 part 11"

## CERTIFICATES



ATEX



UL/C-UL



IECEX



TIIS



GOST-R/GGTN



NEPSI...

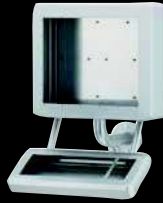
## ENCLOSURE / MOUNTINGS



FHP Standard Enclosure



Floor mounting



Wall mounting



Mounting on the ceiling

### Field Desk Enclosure

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

The CHALLENGER components can be installed in any desired enclosure because all components for operation and visualization are certified for intrinsic safety independent of the enclosure.

## SPECIAL ENCLOSURES



(Further special enclosures on request)

## OPTIONS & ACCESSORIES



### Barcode Scanner

- Barcode Scanner for all current barcodes (UPC, EAN, Code 128...)
- Contact-free recognition
- Automatic scan resolution (similar in design)
- Ingress protection IP65
- Protection class Ex II 2G Ex ib IIC T4



### Key Switch SW 1

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



### 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



### Emergency Stop Button

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

## INTERFACES



### 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 Ex II 2G Ex ib IIC T4
- TISS, UL/C-UL, ATEX ... certified



### Barcode Scanner Interface

- Universal Barcode Scanner Interface for Ex or Non-Ex Barcode Scanner
- Ingress protection IP 65 from front

## CAMERA



### 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 Ex II 2G Ex de IIC T6

(Further options on request)

## YOUR ADVANTAGES

- Intrinsically safe certified components for operation and visualization
- Modular configuration
- Trouble-free PC hardware changes and software updates
- Ambient Temperature -30° 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

## GECMA SERVICE

All product information / technical data sheets / drawings and the chance to configure the optimum human-machine interface can be found at: [www.GECMA.com](http://www.GECMA.com)



Configurator



Products



News



Support  
Technical drawings



Calls returned within 24 hours



Offer made within 48 hours



Delivery within the space of few weeks



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

tested by:



# GECMA

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