



THE STRONGEST LINK.

STAHL

HMIs IN OIL & GAS APPLICATIONS

For hazardous areas and extreme conditions



HMI & MOBILE SOLUTIONS FOR HARSH AND HAZARDOUS ENVIRONMENTS

The IP66-rated SHARKs are extremely rugged, and specifically designed to ensure fail-safe, reliable 24/7 operation even in the harshest environments.

“Rugged” perfectly describes R. STAHL’s HMIs of the device platforms SHARK and RAPTOR.

Both device platforms are ideally suited for onshore and offshore applications, e.g., on rig floors, dog-houses, wireline, loading, drilling (MWD/LWD), mud logging, casing, well stimulation, rig instrumentation, and more.



SHARK OPERATOR STATION IN “RUGGED DESIGN” AS PANEL PC / THIN CLIENT

- For Zones 1, 21 / 2, 22 / Class I, Zone 1 / Class I, Zone 2 / Class II, Div. 2 / Class III.
- CE / ATEX, IECEx, NEC / CEC, PESO / BIS, KCC / KCS, CNEx / CCC, RCM, ABS, DNV.
- Extended temperature range: -40 °C ... +65 °C (-40 °F ... +149 °F).
- Dual Ethernet via CAT5 or fiber optics, optionally with additional Wi-Fi.



RAPTOR OPERATOR INTERFACE WITH INTEGRATED VISUALIZATION SOFTWARE

- For Zones 1, 2, 21, 22 / Class I, Zone 1, rugged areas.
- CE / ATEX, IECEx, EAC, NEC / CEC, PESO / BIS, KCC / KCS, CNEx / CCC, JPNEx, DNV.
- Extended temperature range: -40 °C ... +65 °C (-40 °F ... +149 °F).
- Configurable with MOVICON 11, WEC7 & WebVisu MicroBrowser.



MOBILE SOLUTIONS & DEVICES

- Wide range of mobile devices.
- R. STAHL expertise in all hard- and software solutions, including premium support.
- For Zone 1, 21 / Class I, II, III, Div. 1.
- CE / ATEX, IECEx, NEC, EAC, KC, INMETRO, PCEC, JNIOOSH, SANS, MIL-STD 810H.
- Extended temperature range: -20 °C ... +60 °C (-4 °F ... +140 °F), IP68.
- R. STAHL expertise in all hard- and software solutions.

SHARK – DEVELOPED FOR THE EXTREME: -40 °C ... +65 °C (-40 °F ... +149 °F)



SHARK HIGHLIGHTS 15" / 21.5"

STATE-OF-THE-ART PROCESSORS

- High-performance Intel Core i5 for fastest data processing.
- Robust AMD processors for all standard applications.

CAPACITIVE SUNLIGHT-READABLE DISPLAY

- Projective capacitive multi-touch screen (PCAP), well protected behind hardened and non-reflecting glass.
- 21.5", Full HD, 1920 x 1080, 16:9, brightness >1000 cd/m².
- 15", Full HD, 1024 x 768, 4:3, brightness >1200 cd/m².

ENCLOSURE

- Powder-coated, salt spray- and water-resistant aluminum enclosure protects and cools electronics.

RFID CARD READER

- The 21.5" version can be equipped with an RFID card reader for access control or user management.

CAPACITIVE FUNCTION KEYS

- 8 capacitive function keys for global or softkey functions.

SHOCK AND VIBRATION RESISTANCE

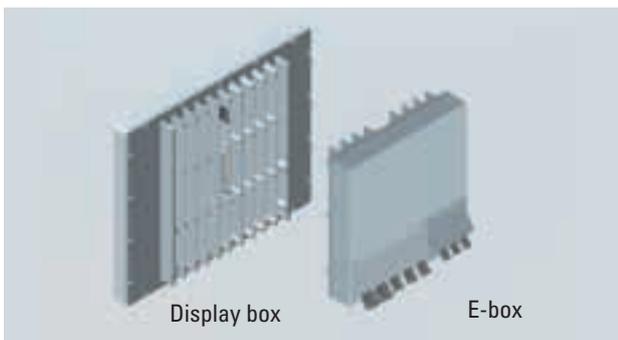
- Up to 25 g / up to 5 g; 5 ... 1,000 Hz.
- Excellent corrosion resistance to seawater.



EXTREMELY RUGGED WITH INNOVATIVE TECHNOLOGIES

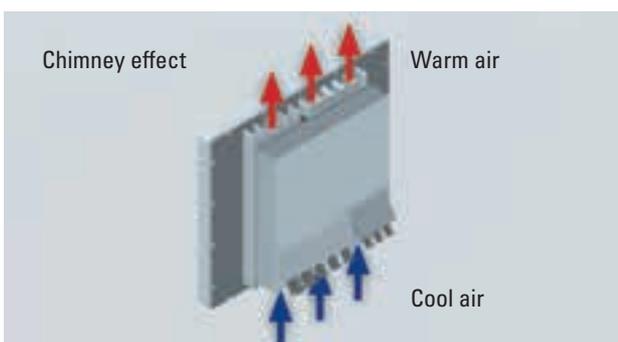
The IP66-rated SHARKs are extremely rugged, and specifically designed to ensure fail-safe, reliable 24/7 operation even in the harshest environments:

Configured with innovative sunlight-readable display, multi-touch, Wi-Fi, Bluetooth, and camera functionality, these HMIs provide you with top-of-the-range HMI technology.



MODULAR DESIGN FOR EASY ON-SITE MAINTENANCE

- Display box with touch screen separated from E-box.
- E-box with CPU and power supply board.



INNOVATIVE HEATING/COOLING CONCEPT

- Chimney effect makes it possible to run up to +65 °C (+149 °F).
- Integrated heater allows the start of the devices from -40 °C (-40 °F).

SHARK CONNECTION TYPES

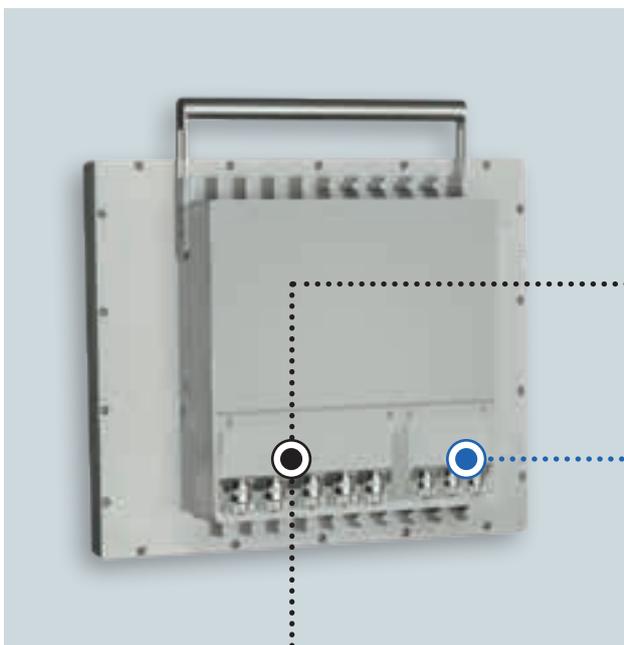
EX PLUG CONNECTOR MINICON SERIES 8595



- For Zone 1, 21, hot-swap technology.
- Versatile application possibilities thanks to modular structure.
- Most extreme operating conditions in hazardous areas.
- Reliable data and signal connections or power supplies.
- Simple connection and disconnection thanks to one-handed operation.

STANDARD CONNECTION

- For Vesa standard connection mount.
- With standard cable glands for permanent installation.



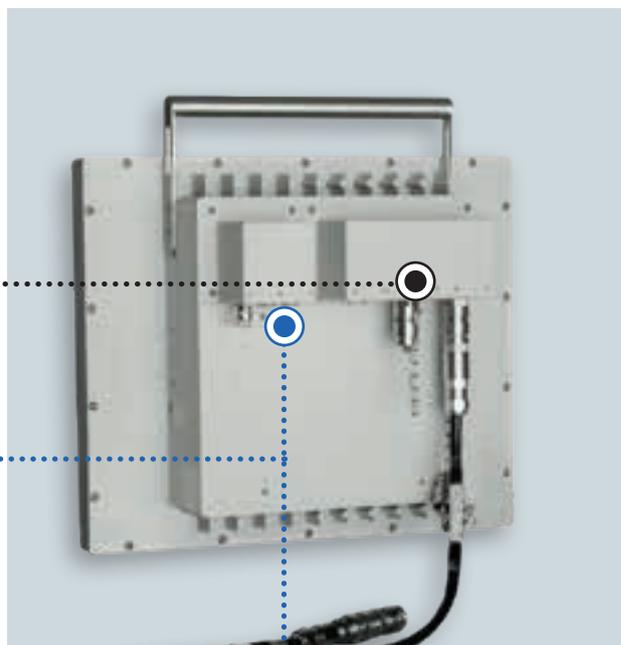
SHARK x98

EX E INTERFACES

- Power supply 100 ... 240 VAC or 24 VDC (optional).
- Dual Ethernet 2 x 10/100/1000BaseTX, or 2 x 100BaseFX, or 2 x 10/100/1000BaseTX combined with 2.4 / 5 GHz Wi-Fi and Bluetooth (R).
- Serial RS-232 / RS-422 / RS-485.
- High-power USB 5 V / 500 mA.
- 12 V / 24 VDC output.

TOP CONNECTION

- For wall and yoke mount with blind plugs and separate connector variants with MiniCon and ROTA®.
- Plugs and separate sockets for a flexible, fast, safe, and mobile connection on site.



SHARK x98

EX I INTERFACES

- 2 x low-power USB for keyboard and pointing device.
- High-power USB for USBi drive (Ex ib).
- Wi-Fi, Bluetooth (R), 2 x antenna connectors Coax for 2.4 GHz and 5 GHz.
- Serial interface RS-232 with power supply for external barcode scanners and RFID readers.

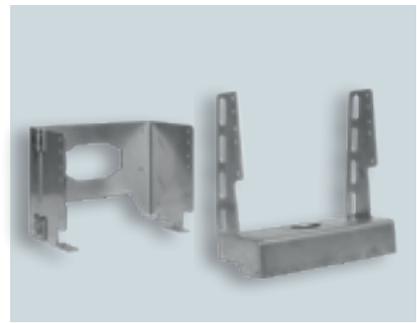
SHARK MOUNTING OPTIONS AND ACCESSORIES



Wall mounting with keyboard and sunshade



Rig floor



Mounting options



Panel-mount solution



Wi-Fi / Bluetooth antenna



High-performance all-round camera



Optional high-resolution camera module



Card reader module 13.56 GHz



Stand MPFL with barcode scanner

SHARK KEYBOARD OPTIONS



Trackball



Touchpad



Joystick

KEYBOARD OPTIONS

KEYBOARDS

- With keyboard
- Without keyboard
- Keyboards only

POINTING DEVICES

- Trackball
- Touchpad
- Joystick

HAZARDOUS AREAS

CE / ATEX, IECEx,
NEC / CEC, PESO / BIS,
KCC / KCS, CNEEx / CCC,
RCM, ABS, DNV

COATINGS

- Aluminum coated
- Polyester foil

LANGUAGES

US, German, French,
Swiss, Spanish,
Slovenian, Nordic

DEVICE PLATFORM RAPTOR



Raptor ET-208

7" display, 800 x 480, with sunlight-readable touch screen (PCAP) behind hardened glass.



IDEAL FOR TANK-FARM AND MACHINE OPERATIONS ON OIL RIGS

The Operator Interfaces RAPTOR are certified for use in hazardous areas Zone 1, 2 (ATEX, IECEx, EAC, KCC, CCC, JPNEx, BIS, DNV-GL) and Zone 21, 22 (ATEX, IECEx, EAC, KCC), suitable for use in extreme ambient conditions, and salt spray and water resistant.

RAPTORs are extremely rugged, and specifically designed to ensure fail-safe, reliable 24/7 operation even in the harshest environments.

- HMI with integrated operating system and visualization software.
- For tank-farm and rig-floor applications.
- For machine and heat-tracing operations.
- IP69 rating.
- High vibration and shock resistance.
- Temperature range: -40 °C ... +65 °C (-40 °F ... +149 °F).
- MOVICON CE.
- Ethernet.
- Serial.

RAPTOR HOUSINGS AND ACCESSORIES AND CONNECTION TYPES



HOUSING FOR TANK-FARM OPERATION

RAPTOR ET-208 in enclosure for ambient temperatures ranging from -40 °C ... +65 °C (-40 °F ... +149 °F).



BARCODE SCANNER

- Wired or wireless Bluetooth scanners.
- Certified acc. to ATEX and IECEx Zones 1, 2, 21, 22.
- 1D / 2D barcodes, stacked-codes scanner.
- Ambient temperature range: -20 °C ... +50 °C (-4 °F ... +122 °F).



CARD READER

- Universally applicable user authentication.
- Certified for Zone 1, 2, 21, 22 (version Z1), or Zone 2, 22 (version Z2).
- MIFARE CLASSIC, DESFIRE, LEGIC MIM, LEGIC ATC, SONY FELICIA, INSIDE SECURE, and many other protocols.
- Ambient temperature range: -40 °C ... +70 °C (-40 °F ... +158 °F).
- Installation directly in hazardous area.



RAPTOR CONNECTION TYPES



EX E INTERFACES

- Power supply 24 VDC or 85 VAC ... 250 VAC.
- Serial interface RS-422 / RS-485 for connecting to PLCs and other controllers (heat tracing).
- Serial interface RS-422 for direct connection to RFID reader or barcode scanner.
- Fast Ethernet 10/100BaseTX for connection to PLCs and other network-based controllers.
- USB interface or 5 V power supply for RFID reader.

EX I INTERFACES

- Keyboard matrix for up to 32 push buttons, configurable as function keys, softkeys, or alphanumeric keys.
- USB interface to connect a USB drive to recover or update a configuration.

MOBILE SOLUTIONS



MOBILE WORKER SOLUTIONS

Staff shortages and an ever longer paper trail combined with increasing health and safety requirements are some of the daily challenges system operators are faced with.

We at R. STAHL are the ideal partner for meeting these challenges. We have developed Mobile Worker concepts to help you improve the quality of your processes whilst reducing cost and increasing safety for your staff and machinery.

The basis for any Mobile Worker solution is full and continuous connectivity. For this, our product portfolio includes flexible solutions via Wi-Fi infrastructures as well as signal amplification for LTE or 5G.

Based on standard IT components of major providers, these solutions can be used to extend the existing IT infrastructure to the hazardous area. Together with our service concepts, mobile devices such as smartphones, tablets, smart watches, RFID and barcode scanners complete the solution.

We provide you with an all-inclusive package from one supplier – starting with our assistance with choosing the right components, via integration, maintenance and service.



INSPECTION AND MAINTENANCE

Fast identification of systems and devices with a scan or the mobile retrieval of the floorplan with our Zone 1, 21 tablet solutions. Work orders can be allocated to staff dynamically, who can then quickly retrieve the associated instructions.

Use our communication solutions to connect to experts the world over for remote support. Our barcode and RFID scanners and our thermal imaging cameras can help substantially reduce labor cost.

LONE WORKER PROTECTION

Work without safeguarding by a second employee is a familiar issue in hazardous areas. Our solutions will reduce hazards for your staff and system. Our smartwatches enable you to monitor vital signs and the position of your staff (geofencing).

Since our explosion-protected mobile solutions are certified for Zone 1, 21 and 2, 22, system

operators no longer have to ensure that mobile equipment is not carried into areas for which it is not certified. This substantially reduces time and cost, and also takes care of potential errors with zone classification.

A programmable button on the side for push-to-talk applications keep workers in touch with the control room (PoC / PTT).

A large red programmable emergency button enables workers to make quick emergency calls (lone worker protection / SOS).

Our Zone 1 smart watches or accessories for tablets and smartphones enable you to access information hands free.

TABLETS, SMARTPHONES AND ACCESSORIES



Our range includes tablets for all areas and applications, from tablets for Zones 1, 2, 21, 22 to tablets for the mining industry as well as all safe industrial areas. The technology leader is the 5G smartphone for all applications in the Wi-Fi 6 / 5G infrastructure.



Another technology highlight is our explosion-protected smartwatch that functions as an additional hands-free display showing all relevant alerts and data.

Both products can be integrated into state-of-the-art mobile solutions. Our explosion-protected industrial tablets are available with Android or Windows operating systems.



Our new V6 REMOTE FIRMWARE comes with increased functionality and user comfort – it enables highly secure network communication and the intuitive, easy integration of all network participants.

Together with peripherals and accessories, it all adds up to the optimum mobile solution, provided by one supplier.

Get in touch: sales.dehm@r-stahl.com

#STAHL4AUTOMATION MORE THAN YOU EXPECT

AUTOMAT

SAFETY
BARRIERS
INTRINSPAK

ISOLATORS
ISPAK

REMOTE I/O
IS1+

ETHERNET &
FIELDBUS

NETWORK
PRODUCTS

ZONE 2



ZONE 1



FIELD DEV





ION LEVEL

MARK
ETS

SYSTEMS &
SOLUTIONS

HMI's

MOBILE
SOLUTIONS

CAMERA
SYSTEMS



CONTROL STATION



GROUNDING
MONITORING



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ICE LEVEL

UNIVERSAL
AUTOMATION.ORG

EtherNet/IP

Modbus
TCP

OPEN
PROCESS
AUTOMATION

OPC UA

FDT

ONVIF

THE QUICKEST WAY TO YOUR HMI

Personal contact



Our experts at your service

R. STAHL's team of experts is always available to help you. Benefit from our years of experience and contact us via e-mail or phone.

+49 221 76806-1200
sales.dehm@r-stahl.com

Online support and product finder

2. In which zone or division do you want to install the HMI?*

<input type="checkbox"/> Zone 1	<input type="checkbox"/> Zone 2	<input type="checkbox"/> Zone 21	<input type="checkbox"/> Zone 22
<input type="checkbox"/> Class I, Division 2	<input type="checkbox"/> Class I, Division 2	<input type="checkbox"/> Class II	

3. Which certificates do you need for the region where the HMI will be installed?*

<input type="checkbox"/> ATEX	<input type="checkbox"/> IECEx	<input type="checkbox"/> IEC	<input type="checkbox"/> CEC	<input type="checkbox"/> EAC
<input type="checkbox"/> INMETRO	<input type="checkbox"/> CNEX	<input type="checkbox"/> DNV / GL	<input type="checkbox"/> LR	<input type="checkbox"/> ABS

Other?

4. Do you want to install the HMI outdoors or indoors?*

Outdoors Indoors

On the Support page, under Downloads, we provide you with solutions for almost any technical question you might have.

We have designed a product finder to enable you to find the best possible Human Machine Interface for your application.

r-stahl.com

#STAHL4AUTOMATION MORE THAN YOU EXPECT

R. STAHL was founded as a family-run German company in 1876 and has been actively involved in explosion protection since the 1940s.

AUTOMATION has been firmly established in the company for 50 years, and has resulted in significant pioneering work, for example, in explosion-protected remote I/O systems and intrinsically safe fieldbus solutions.

We actively cooperate in **future topics**, such as NAMUR Open Architecture (NOA), the Open Process Automation

Forum (OPAF), Ethernet APL (Advanced Physical Layer), and Cyber Security, so that our customers can digitalise their process plant of the future.

Nowadays, R. STAHL is one of the world's three largest providers of components and solutions for electrical explosion protection.

We are the number one company for **system solutions**, including for the most extreme ambient conditions. R. STAHL actively supports standardisation in accordance with ATEX, IECEx and

NEC / CEC for its customers in order to ensure a high safety standard within Germany and internationally.

From development through to production and operation in systems, we act true to the **"Made in Germany"** seal.

R. STAHL places great importance on the safety, quality and durability of its products. This is why we have been certified since 1993 in accordance with ISO 9001 and are one of the first manufacturers to be certified in explosion protection in accordance with IEC EN 80079-34.





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