ET-316 – 10.4" (800 x 600)

Highlights

• "Ready-to-run", multilingual operator interfaces with integrated operating system
• Rugged HMIs for temperatures ranging between -40 °C up to +55 °C [-40 °F up to +131 °F]
• Rugged, modular structured product design, no rotating parts, fanless
• Without enclosure suitable for use in hazardous areas / many enclosure and mounting options

Explosion Protection
Examination Certificate / Identification

ATEX directive 94/9/EG
TÜV 11 ATEX 7041 X
ET-xxS-A-Tx
II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb
II 2 (2) D Ex ia tb [ia ib] IIC T80° C Db IP66
ET-xxS-A-Fx
II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
II 2 (2) D Ex ia tb [ia ib op is] IIC T80° C Db IP66

IECEx
TUR 11.0006X
ET-xxS-A-Tx
Ex d e ia ib mb [ia ib] IIC T4 Gb
Ex ia tb [ia ib] IIC T80° C Db IP66
ET-xxS-A-Fx
Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Ex ia tb [ia ib op is] IIC T80° C Db IP66

GOST-R
POCC DE.15604.B01741
Operating licence
POCC 00-047986
ET-xxS-A-Tx
2Exdeiaibmb[aib][aib]IICT4
DIP A21 TA80°C, IP66
ET-xxS-A-Fx
2Exdeiaibmb[aibispis][aib]IICT4
DIP A21 TA80°C, IP66

KGS / KCC
12-G4A80-0215X
12-G4A80-0317X
Ex d e ia ib mb [ia ib] IIC T4 Gb
Ex ia tb [ia ib] IIC T80° C Db IP66

Firmware/Software

• Integrated SPSPlusWIN software reduces software costs
• Incl. Excel import/export function, and recipe management
• Remote access to network and web server
• Unicode character sets for multilingual applications (Chinese, Japanese, etc.)
• Modern Ethernet protocols: Profinet, Ethernet IP, Modbus TCP, as well as serial protocols, and Profibus / MPI

Description

The intelligent ET-316 operator interface is the ideal solution for machine-level operation and visualisation tasks, including PLC programming in hazardous areas, Zone 1, 21. The ET-316 terminals are used worldwide in a variety of applications, e.g. in package units, or for logistics and automation tasks in tank farms.

The ET-316 terminals have a fast processor, and a high bright 10.4" TFT display; the SPSPlusWIN software option allows fast and cost-effective project engineering. For international applications, this software contains a multi-lingual user interface, language import and export, and supports international character sets. The functionality covers recipe management, Microsoft Excel import / export, Ethernet upload and download, and intelligent page navigation. Designed as a "closed unit" with proprietary real-time operating system, the ET-316 is protected against external manipulations.

The system communicates with automation systems via Ethernet IP, Modbus TCP, Profinet (HMI layer) or Profibus, Modbus, MPI, and other serial interfaces. Mifare, ProxPro and Wiegand card readers can be used for user identification.
Operating Principle

Ingress protection
Front and back side IP66
## Technical Data

<table>
<thead>
<tr>
<th>Mounting design</th>
<th>Front panel mounting</th>
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| **Display**     | 26 cm (10.4") TFT color display  
16.777.216 colors  
SVGA 800 x 600  
Aspect ratio 4:3  
Brightness 400 cd/m²  
Contrast 700:1  
8 wire resistive touch screen as standard |
| **Backlighting**| LED technology  
Service life 130,000 h at +10 °C  
55,000 h at +35 °C  
40,000 h at +55 °C  
55,000 h at +10 °C  
40,000 h at +35 °C  
40,000 h at +55 °C |
| **Display function keys** | 12 function keys  
Polyester film on aluminum plate |
| **External keyboard** | Yes (optional), 105 keys (Ex ia) |
| **Processor** | LX 800, 266 MHz |
| **RAM** | 256 Mbyte |
| **Memory** | 256 Mbyte |
| **Memory upgrade optional** | - |
| **Operating system** | RT Target |
| **Languages** | Global, multilingual support |
| **Interfaces** | 1 x Ethernet 10/100BaseTx (Ex e)  
2 x USB (Ex e)  
2 x USB (Ex ib)  
2 x PS/2 (Ex ia) (keyboard)  
1 x RS-232 / RS-422 / RS-485 (Ex e)  
1 x Audio line out (Ex e)  
Optional interfaces:  
1 x RS1 (Ex ib) data and data supply for readers  
1 x RS-232 / RS-422 / RS-485 (Ex e)  
Proftibus with 9185/12-46-10  
MPI, incl. MPI box SSW7-RK-512-RS-422 |
| **Dimensions (W x H x D)** | 372 x 270 x 150 mm (14.65 x 10.63 x 5.91") |
| **Cutout** | 359.5 x 257.5 (+/- 0.5) mm (15.57 x 10.14 (+/-0.02") |
| **Weight** | 12.6 kg (27.7 lbs) |
| **Power supply** | 24 VDC (20.4 up to 28.8 VDC); 1.2 A; 28.8 W  
optional: external power supply 90 - 253 VAC |
| **Permissible ambient temperature ranges** | Operation: -20 °C up to +55 °C*  
[ -4 °F up to +131 °F]  
Operation with heater **: -30 °C up to +55 °C*  
[ -22 °F up to +131 °F]  
Operation with heater **, enclosure insulation, protection screen -40 °C up to +55 °C*  
[ -40 °F up to +131 °F]  
Storage -30 °C up to +60 °C  
[ -22 °F up to +140 °F]  
* ET-4x6-A and ET-5x6-A: 5 h maximum operation at +55 °C (+131 °F);  
continuous operation (24/7) at +50 °C (+122 °F)  
** The heater has to be designed to ensure that the temperature inside the enclosure of the operating unit does not fall below -20 °C [-4 °F] (-30 °C [-22 °F] only at the front side) |
| **Heat dissipation** | Front plate cooling by heat pipe  
approx. 50 % through front plate, approx. 50 % through backside |
| **Relative humidity** | 90 % at +40 °C [+104 °F], non condensing |
| **Vibration** | Operation: 3 up to 22 Hz, 1 mm (0.04") |

We reserve the right to make any changes at any time according to technological progress or further development.

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Tel. +49 (221) 59808-200 | Fax: +49 (221) 59808-260 | Email: office@stahl-hmi.de
| Shock | Operation: 15 g / 11 ms (0.52 oz/11 ms)  
|       | Transportation: 25 g / 6 ms (0.88 oz/6 ms) |
|       | Transport: 3 up to 9 Hz: 3.5 mm (0.14")  
|       | 9 up to 500 Hz: 9.8 m/s² = 1 g (32 ft/s² = 0.03 oz) |

22 up to 500 Hz: 9.8 m/s² = 1 g (32 ft/s² = 0.03 oz)

Material front side: UV-resistant polyester film on seawater-resistant aluminum, incl. touch screen and protective safety glass

Material back side: Stainless steel

Ingress protection: Front and back side IP66