



Operating Instructions

Remote HMI T-Ind Series

R. STAHL HMI Systems GmbH
Im Gewerbegebiet Pesch 14
D-50767 Köln

HW-Rev. T-Ind: 01.01.00

Operating Instructions Version: 01.01.00
Issue date: 11.07.2011

Disclaimer

Publisher and copyright holder:

R. STAHL HMI Systems GmbH
Im Gewerbegebiet Pesch 14
D-50767 Köln

Company located at: Cologne
Court of registration: District court Cologne, HRB 30512
VAT number: DE 812 454 820

Telephone: (switchboard) +49/(0)221/ 5 98 08 - 200
(hotline) - 59
Fax: - 260
E-mail: (switchboard) office@stahl-hmi.de
(hotline) support@stahl-hmi.de

- All rights reserved.
- This document may not be reproduced in whole or in part except with the written consent of the publisher.
- This document may be subject to change without notice.

This documentation has been produced and checked with due care.

R. STAHL HMI Systems GmbH shall, however, not accept liability for any mistakes in this and all other documents.

Any warranty claims are limited to the right to demand amendments. Liability for any damage that might result from the content of this description or all other documentation is limited to clear cases of premeditation.

We reserve the right to change our products and their specifications at any time, provided it is in the interest of technical progress. The information in the current manual (in the internet and on CD/DVD) or in the operating instructions included with the operator interface applies.

Trademarks

The terms and names used in this document are registered trademarks and/or products of the companies in question.

WINDOWS ® 95/98/2000/NT/ME/XP/Vista/7/Server are registered trademarks of MICROSOFT Corporation, USA.

Copyright © 2011 R. STAHL HMI Systems GmbH. Subject to alterations.

Table of contents

	Description	Page
	Disclaimer	2
	Table of contents	3
1	Product names	4
2	Technical data	5
2.1	Display unit	5
2.2	Keyboard units	6
2.3	Transmission units	7
2.4	Enclosure	8
3	Interfaces and connection details	9
3.1	Display	9
3.2	Keyboard trackball unit	10
3.3	Keyboard mouse unit	10
3.4	Keyboard pad unit	10
3.5	Keyboard joystick unit	10
3.6	Transmission unit	11
4	Safety instructions	12
4.1	General safety instructions	12
4.2	Installation – safety instructions	12
4.3	Operating instructions	12
5	General instructions	13
5.1	Technology Advances	13
5.2	Repair/hazardous materials	13
5.3	Use of trademarks	13
5.4	SCREEN-TEC GmbH	13
6	Declaration of EC conformity	14
7	Release notes	15

1 Product names

Display unit type:	T-Ind-##*-CAT7* T-Ind-##*-MM* T-Ind-##*-SM*
Keyboard Trackball unit type:	T-Ind*-KB-TB*
Keyboard Mouse unit type:	T-Ind*-KB-M*
Keyboard Touchpad unit type:	T-Ind*-KB-P*
Keyboard Joystick unit type:	T-Ind*-KB-J*
Transmission unit type:	T-Ind-KVM*-MM* T-Ind-KVM*-SM*

* = any alphanumeric or symbolic character, without relevance for explosion protection

= one alphanumeric character, without relevance for explosion protection

2 Technical data

2.1 Display unit

T-Ind-##*-CAT7*	(type for CAT7 cable)
T-Ind-##*-MM*	(type for multi mode FO cable)
T-Ind-##*-SM*	(type for single mode FO cable)
Housing type:	Steel
Protection:	IP66 at the front, IP64 at the back
Resolution:	1280 x 1024 pixel, 4:3 ratio, 19" display size 1680 x 1050 pixel, 16:10 ratio, 22" display size 1920 x 1080 pixel, 16:9 ratio, 24" display size
Visualization of resolution:	1:1 (standard for KVM USB) scaling (standard for KVM DVI, optional for KVM USB)
Brightness:	typ. 250 cd/m ² @ Ta 20°C (68°F) via LED or CFL backlight (depend of display size)
Touch option:	5-wire resistive touch, foil surface, optional glass surface
For KVM USB:	
Cold start temperature:	-10°C to +50°C (-14°F to 122°F)
During operation:	-20°C to +50°C (-4°F to 122°F)
Operation with heater ¹⁾ :	-30°C to +50°C (-22°F to 122°F)
Short term temperature:	-30°C to +60°C (-22°F to 140°F)
Temp. when fixed in enclosure:	-20°C to +50°C (-4°F to 122°F)
Storage temperature:	-20°C to +70°C (-4°F to 158°F) 10 to 90% relative humidity @ 40°C (104°F), non-condensing
For KVM DVI:	
Cold start temperature:	+5°C to +40°C (41°F to 104°F)
During operation:	+5°C to +40°C (41°F to 104°F)
Operation with heater ¹⁾ :	+5°C to +40°C (41°F to 104°F)
Short term temperature:	+5°C to +40°C (41°F to 104°F)
Temp. when fixed in enclosure:	+5°C to +40°C (41°F to 104°F)
Storage temperature:	-20°C to +70°C (-4°F to 158°F) 20 to 80% relative humidity @ 40°C (104°F), non-condensing
¹⁾ The used heater must be constructed in the way, that inside of the enclosure the temperature will not fall below -20°C (-4°F).	
Dimensions:	607 mm x 422 mm x 112 mm (23.9" x 16.61" x 4.41"), see technical drawings in the manual
Weight:	10 kg typ. (22 lb), depending on version
Mounting type:	fixed mounting
Power supply:	100-240 VAC, 50-60 Hz, 35 W typ. / maximum 150 W (typ. 119BTU / max. 510BTU), recommended protection 2.0 AT

MTBF:	min. / typ. 50.000 h @ Ta 20°C (68°F) and intended use
Data cable length KVM USB CAT7:	up to 150 m (490 ft) via CAT7 installation cable AWG22
Data cable length KVM DVI CAT7:	up to 140 m (460 ft) via CAT7 installation cable AWG22
Data cable length FO multi mode: (available for KVM USB)	up to 500 m (1.640 ft) via 50/125 µm FO cable up to 300 m (985 ft) via 62.5/125 µm FO cable
Data cable length FO single mode: (available for KVM USB)	up to 10.000 m (33.000 ft) via 9/125 µm FO cable
Interfaces/connections:	see section: "Interfaces and connections: display unit"

2.2 Keyboard units

T-Ind*-KB-TB*	(type Keyboard Trackball Unit)
T-Ind*-KB-M*	(type Keyboard Mouse Unit)
T-Ind*-KB-P*	(type Keyboard Touchpad Unit)
T-Ind*-KB-J*	(type Keyboard Joystick Unit)
Housing type:	Steel/Aluminium
Surface foil:	polyester
Protection:	IP65/IP54 static/dynamic at the front, minimum IP20 at the back
Operating temperature range:	-30°C to +60°C (-22°F to 140°F) Relative humidity: 10 to 90%, non-condensing
Storage temperature range:	-30°C to +70°C (-22°F to 158°F) Relative humidity: 10 to 90%, non-condensing
Dimensions:	581 mm x 186 mm x 50 mm (22.87" x 7.32" x 1.97"), see technical drawings in the manual
Weight:	3 kg typ. (6.6 lb), depending on version
Mounting type:	fixed mounting
Power supply	via USB interfaces
MTBF:	min. / typ. 50.000 h @ Ta 20°C (68°F) and intended use
Interfaces/connections:	see section: "Interfaces and connections: display unit"

2.3 Transmission units

T-Ind-KVM*-MM*	(type for multi mode FO cable)
T-Ind-KVM*-SM*	(type for single mode FO cable)
Housing type:	Desktop
Protection:	min. IP20
For KVM USB:	
Certification temperature:	-30°C to +60°C (-22°F to 140°F)
Cold start temperature:	-10°C to +50°C (-14°F to 122°F)
During operation:	-20°C to +50°C (-4°F to 122°F)
Short term temperature:	-30°C to +60°C (-22°F to 140°F)
Storage temperature:	-20°C to +70°C (-4°F to 158°F) 10 to 90% relative humidity @ 40°C (104°F), non-condensing
For KVM DVI:	
Certification temperature:	-30°C to +60°C (-22°F to 140°F)
Cold start temperature:	+5°C to +40°C (41°F to 104°F)
During operation:	+5°C to +40°C (41°F to 104°F)
Short term temperature:	+5°C to +40°C (41°F to 104°F)
Storage temperature:	-20°C to +70°C (-4°F to 158°F) 20 to 80% relative humidity @ 40°C (104°F), non-condensing
Dimensions KVM USB:	145 mm x 44.45 mm x 165 mm (5.71" x 1.75" x 6.5") see technical drawings in the manual
Dimensions KVM DVI:	210 mm x 44 mm x 210 mm (8.27" x 1.73" x 8.27") see technical drawings in the manual
Weight:	1 kg typ., (2.2 lb), depending on version
Mounting type:	typ. corresponding equipment
Power supply:	100-240 VAC, 50-60 Hz, 5 W typ. / maximum 10 W (typ. 17BTU / max. 34BTU), recommended protection 1.0 AT
MTBF:	min. / typ. 50.000 h @ Ta 20°C (68°F) and intended use
Data cable length KVM USB CAT7:	up to 150 m (490 ft) via CAT7 installation cable AWG22
Data cable length KVM DVI CAT7:	up to 140 m (460 ft) via CAT7 installation cable AWG22
Data cable length FO multi mode: (available for KVM USB)	up to 500 m (1.640 ft) via 50/125 µm FO cable up to 300 m (985 ft) via 62.5/125 µm FO cable
Data cable length FO single mode: (available for KVM USB)	up to 10.000 m (33.000 ft) via 9/125 µm FO cable
Interfaces/connections:	see section: "Interfaces and connections: transmission unit"

2.4 Enclosure

HSG-Txx-V2A-PME-W	desk enclosure, wall mounting
HSG-Txx-V2A-PME-F	desk enclosure, floor mounting
HSG-Txx-V2A-FXE-W	strut enclosure, wall mounting
HSG-Txx-V2A-FXE-F	strut enclosure, floor mounting
HSG-Txx-V2A-FXE-C	strut enclosure, ceiling mounting
Protection:	Typ. IP65 when all assembly and mounting holes appropriate closed
Lock:	Typ. two way key bit
Material:	Typ. 1.4301 (DIN/EN), 304 (ASTM), 304 S 31 (BS)
Surface:	Typ. 240 grinding
Mounting pipe MPF, MPC, MPW:	Typ. 1.4301 (DIN/EN), 304 (ASTM), 304 S 31 (BS), 60.3 mm x 2 mm, min. 470 N/mm ² (EN10217-7)
Operating temperature range	-30°C to +60°C (-22°F to 140°F) Relative humidity: 10 to 90%, non-condensing
Storage temperature range:	-30°C to +70°C (-22°F to 158°F) Relative humidity: 10 to 90%, non-condensing
Dimensions:	750 mm x 665 mm x 243 mm (29.54" x 26.18" x 9.56"), see technical drawings in the manual
Weight:	19.5 kg typ., (43 lb), depending on version

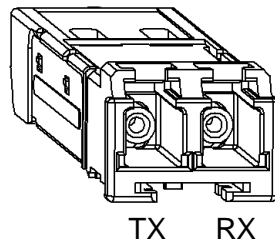
3 Interfaces and connection details

3.1 Display

PWR (Power): IEC power plug

USB: USB A plug

FO 1 (Data): terminal TX-RX

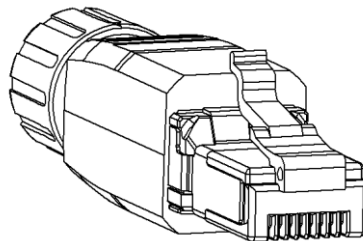


LC Duplex connector

Multimode: preferred for 50/125 μm , max. 35 mW, 850 nm

Single-mode: preferred for 9/125 μm , max. 35 mW, 1310 nm

CAT7 (Data): RJ45 Data interface



1 8

terminal X0-1:	TRD0+ (typ. colour: white/orange)
terminal X0-2:	TRD0- (typ. colour: orange)
terminal X0-3:	TRD1+ (typ. colour: white/green)
terminal X0-4:	TRD2+ (typ. colour: white/blue)
terminal X0-5:	TRD2- (typ. colour: blue)
terminal X0-6:	TRD1- (typ. colour: green)
terminal X0-7:	TRD3+ (typ. colour: white/brown)
terminal X0-8:	TRD3- (typ. colour: brown)
terminal X0-SHLD:	SHLD (typ. colour: shield)

Recommended connector: Phoenix Contact VS-08-RJ45-5-Q/IP20

0.14 – 0.36 mm² / 26 AWG - 22 AWG for flexible cable

0.13 – 0.32 mm² / 26 AWG – 22 AWG for rigid cable

Connection method: IDC/insulation displacement contacts in acc. with IEC 60352-4

KB (Keyboard): USB A plug, recommended cable length max. 3 m (10 ft)

M (Mouse): USB A plug, recommended cable length max. 3 m (10 ft)

3.2 Keyboard trackball unit

KB (Keyboard): USB A plug, recommended cable length max. 3 m (10 ft)

TBM (Trackball): USB A plug, recommended cable length max. 3 m (10 ft)

3.3 Keyboard mouse unit

KB (Keyboard): USB A plug, recommended cable length max. 3 m (10 ft)

M (Mouse): USB A plug, recommended cable length max. 3 m (10 ft)

3.4 Keyboard pad unit

KB (Keyboard): USB A plug, recommended cable length max. 3 m (10 ft)

P (Pad): USB A plug, recommended cable length max. 3 m (10 ft)

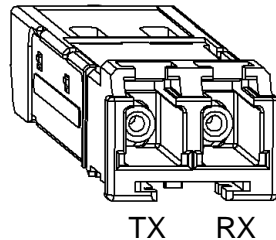
3.5 Keyboard joystick unit

KB (Keyboard): USB A plug, recommended cable length max. 3 m (10 ft)

J (Joystick): USB A plug, recommended cable length max. 3 m (10 ft)

3.6 Transmission unit

FO 1 (Data): terminal TX-RX

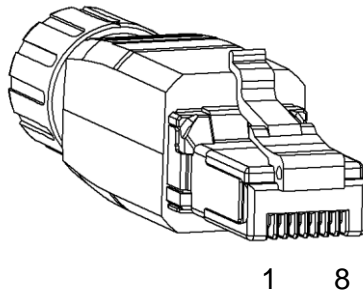


LC Duplex connector

Multimode: preferred for 50/125 μm , max. 35 mW, 850 nm

Single-mode: preferred for 9/125 μm , max. 35 mW, 1310 nm

CAT7 (Data): RJ45 Data interface



terminal X0-1:	TRD0+ (typ. colour: white/orange)
terminal X0-2:	TRD0- (typ. colour: orange)
terminal X0-3:	TRD1+ (typ. colour: white/green)
terminal X0-4:	TRD2+ (typ. colour: blue)
terminal X0-5:	TRD2- (typ. colour: white/blue)
terminal X0-6:	TRD1- (typ. colour: green)
terminal X0-7:	TRD3+ (typ. colour: white/brown)
terminal X0-8:	TRD3- (typ. colour: brown)
terminal X0-SHLD:	SHLD (typ. colour: shield)

Recommended connector: Phoenix Contact VS-08-RJ45-5-Q/IP20

0.14 – 0.36 mm² / 26 AWG – 22 AWG for flexible cable

0.13 – 0.32 mm² / 26 AWG – 22 AWG for rigid cable

Connection method: IDC/insulation displacement contacts in acc. with IEC 60352-4

Connection in acc. with TIA-568 B

4 Safety instructions

4.1 General safety instructions

- All the relevant accident prevention regulations and the regulations for electrical installations must be observed during installation, maintenance work and operation. All persons involved in the installation, commissioning, operation, maintenance and servicing of this devices and its accessories must be qualified and familiar with this manual and associated documents.
- In case of non-observance and non-compliance, the warranty of the specified explosion protection and the warranty claim expire.
- The national safety regulations and accident prevention regulations are to be observed.
- The device may only be used for its intended purpose.
- Modifications and changes of the equipment are not permitted. The housing of the devices is only to be opened by R. STAHL HMI Systems GmbH.
- The first four digits of the serial number on the nameplate provide the year of manufacture.

4.2 Installation – safety instructions

- The national assembly and installation instructions and technical standards are to be observed. Equipment and accessories must be connected and operated according to the standards, regulations and installations instructions. Installation is to be carried out by qualified or trained staff members only.
- Use only appropriate tools for installation.
- Equipment must be earthed with a core cross section of at least 4 mm² or regarding the according standards. Always ensure equipotential bonding between the electrical equipment.
- Shielded cables are recommended for this device. Interconnections of the data cable can influence the performance.
- At the place of installation, a maximum voltage of 250 V and a short circuit current of 1.500 A must not be exceeded.
- Before initial operation, make sure that equipment has been properly installed, and ensure that the wiring is not damaged.

4.3 Operating instructions

- Equipment must be operated in undamaged, clean condition only. Do not touch damaged equipment, this can cause a risk of injury. In case of any damage that might affect the IP protection (e.g. cracks, holes, or broken components), the equipment must be taken out of service immediately. Before putting the equipment into operation again, all damaged components must be replaced.
- General and especially during opening or closing of the enclosure pay attention that no injury of the operator e.g. clamping occur.
- In the event of non-observance and non-compliance the guarantee will become void !

5 General instructions

Please read this manual before installation! In case of doubt (in regards to the translation), the German version of the manual will prevail. We do not assume any liability for any misprints or errors in this manual.

Should you have any questions or suggestions, please contact R. STAHL HMI Systems GmbH.

5.1 Technology Advances

Any changes and modifications shall require the written approval of R. STAHL HMI Systems GmbH. The producer reserves the right to adapt technical data to technological advances without prior notice.

5.2 Repair/hazardous materials

Equipment to be repaired by and shipped to R. STAHL HMI Systems GmbH must include a detailed error description.

Before shipping of the equipment, any adhering materials must be removed, in particular seal channels and gaps. Please do not return any equipment if hazardous substances cannot be removed completely. Should disposal of equipment become necessary, the proprietor of the equipment will be charged with any costs arising from insufficient cleaning or personal injuries (e.g. chemical cauterization).

5.3 Use of trademarks

All trademarks (product names, logos) in this text are the property of the respective owners and are considered protected.

5.4 SCREEN-TEC GmbH

SCREEN-TEC GmbH and R. STAHL HMI Systems GmbH shall be merging to form one company trading under the name of R. STAHL HMI Systems GmbH.

From June 2011 onwards, R. STAHL HMI GmbH shall assume legal succession of SCREEN-TEC GmbH.

SCREEN-TEC GmbH shall cease to exist after May 31st, 2011.

6 Declaration of EC conformity

EG-Konformitätserklärung
EC-Declaration of Conformity
Déclaration de Conformité CE



R. STAHL HMI Systems GmbH • Im Gewerbegebiet Pesch 14 • 50767 Köln, Germany
 erklärt in alleiniger Verantwortung, *declares in its sole responsibility,* *déclare sous sa seule responsabilité,*

dass das Produkt *that the product*
que le produit

T-Ind
 T-Ind
 T-Ind

Typ, type, type:

Display Unit T-Ind-##*-CAT7*
 Display Unit T-Ind-##*-MM*
 Display Unit T-Ind-##*-SM*
 Keyboard Trackball Unit T-Ind*-KB-TB*
 Keyboard Mouse Unit T-Ind*-KB-M*
 Keyboard Pad Unit T-Ind*-KB-P*
 Keyboard Joystick Unit T-Ind*-KB-J*
 Transmission Unit T-Ind-KVM*-CAT7*
 Transmission Unit T-Ind-KVM*-MM*
 Transmission Unit T-Ind-KVM*-SM*

*=any alphanumeric or symbolic character
 #=one numeric character

auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmt
which is the subject of this declaration, is in conformity with the following standards or normative documents
auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants

Bestimmungen der Richtlinie <i>Terms of the directive</i> <i>Prescription de la directive</i>	Nummer sowie Ausgabedatum der Norm <i>Number and date of issue of the standard</i> <i>Numéro ainsi que date d'émission de la norme</i>
2004/108/EG: EMV-Richtlinie 2004/108/EC: EMC Directive 2004/108/CE: Directive CEM	EN 61000-6-2: 2006 EN 61000-6-4: 2007
2006/95/EG: Niederspannungsrichtlinie 2006/95/EC: Low Voltage Directive 2006/95/CE: Directive Basse Tension	EN 60950-1: 2006

Köln, 01.07.2011

Ort und Datum
Place and date
Lieu et date

J. Düren
 Technical Director

W. Bertges
 Quality Manager

7 Release notes

Version 1.00.00

- First version
- Inclusion disclaimer
- Inclusion of assuming legal succession of SCREEN-TEC GmbH

Version 1.01.00

- Splitting of documentation in operation instruction, manual and certificates
- Inclusion of hardware revision
- Reduction of the operating instruction to "old" chapter 5 to 9 and declaration of EC conformity
- Changing from the names of the devices to new definition
- Text corrections
- Correction of the dimensions from the display unit and keyboard
- Including of declaration of conformity

R. STAHL HMI Systems GmbH
Im Gewerbegebiet Pesch 14
D-50767 Köln

Phone:	(switchboard)	+49/(0)221/ 5 98 08	- 200
	(hotline)		- 59
Fax:			- 260
E-mail:	(switchboard)	office@stahl-hmi.de	
	(hotline)	support@stahl-hmi.de	

www.stahl.de
www.stahl-hmi.de

