Operating and Monitoring Systems
KVM system SERIES 600
Device platform SHARK
MT-698-DVI3-1TX

- KVM System, 21.5" display, sunlight-readable 1000 cd/m²
- Rugged design: IP66, shock, vibration and seawater-proof, temperature range -40 °C to +65 °C
- Full HD resolution (1920 x 1080)
- Optional integrated RFID reader
- Data transmission via CAT7 copper cable up to 150 m

MY R. STAHL **SHARKKVMO-SA**

R. STAHL's operating devices with the SHARK device platform are explosion-protected. Their rugged design with degree of protection IP66 makes them shock, vibration and seawater-proof and suitable for temperatures ranging from -40 °C to +65 °C. A chemically hardened, glare-free glass screen protects the display and the function keys, and a projected-capacitive multi-touch touch screen, camera and Bluetooth antenna. The MT-698-DVI3-1TX is a Thin Client for Zones 2, 22 with a 21.5" display (resolution 1920 x 1080), and sunlight-readable (1000 cd/m²). Data is transmitted via CAT7 copper cable up to 150 m

Technical Data

General	
Series	SHARK KVM Operator Stations
Product description	21.5" KVM system
Technology	Remote HMI KVM
HMI type	Rugged Panel
Explosion Protection	
Application range (zones)	2 22
Application range (divisions)	Class I, Zone 2 Class I, Division 2 Class II, Division 2 Class III
Scope	EU (CE / ATEX) International (IECEx) USA (NEC) Canada (CEC) China (CCC / CNEx) India (PESO) Australia (RCM)
IECEx certification	IECEx BVS 14.0116X
ATEX certification	BVS 14 ATEX E 134 X
NEC certification	FM 16 US 0278 X
CEC certification	FM 16 CA 0141 X
PESO certification	A/P/HQ/TN/104/5747 (P436617) P436617/1
CCC certification	2020312309000280
CNEX certification	CNEx22.2713X

R. STAHL HMI Systems GmbH | Adolf-Grimme-Allee 8 | 50829 KÖLN
Tel. +49 221 768 06 1200 | +49 221 768 06 4200 | Email: sales.dehm@r-stahl.com | r-stahl.com

Explosion Protection	
IECEx gas explosion protection	Ex tc [ia op is Da] IIIC T115°C Dc
IECEx dust explosion protection	Ex tc [ia op is Da] IIIC T115°C Dc
ATEX gas explosion protection	II 3(1) G Ex nA nR [ia op is Ga] IIC T4 Gc
ATEX dust explosion protection	II 3(1) D Ex tc [ia op is Da] IIIC T115°C Dc
NEC gas explosion protection	Ex nA nR [ia Ga] IIC T4 Gc Class I, Div. 2 Groups A, B, C, D, T4
NEC dust explosion protection	Zone 22, AEx tc [ia op is Da] IIIC T115°C Dc Class II, Div. 2 Groups F, G T4 Class III
CEC gas explosion protection	Ex nA nR [ia Ga] IIC T4 Gc Class I, Div. 2 Groups A, B, C, D, T4
CEC dust explosion protection	Zone 22, Ex tc [ia Da] IIIC T115°C Dc Class II, Div. 2 Groups E, F, G T4 Class III
PESO explosion protection	Ex ec nR [ia op is Ga] IIC T4 Gc
CNEX gas explosion protection	Ex ec nR [ia op is Ga] IIC T4 Gc
CNEX dust explosion protection	Ex tc [ia op is Da] IIIC T115°C Dc
Electrical Data	
Power supply	24 VDC or 230 VAC
Rated operational voltage DC	24 V
Voltage range DC	20 – 30 V
Rated operational voltage AC	230 V
Voltage range AC	100 – 240 V
Frequency range	50 – 60 Hz
Power consumption DC	4.6 A at 24 VDC (6.9 A with heater)
Power consumption AC 1	0.6 A at 230 VAC (0.8 A with heater)
Power consumption AC 2	1.1 A at 110 VAC (1.7 A with heater)
Protection fuse DC	12 A
Protection fuse AC	5 A
Rated operational power	typically 100 W / max. 150 W (typically 340 BTU / max. 510 BTU)
Transfer technology	KVM-DVI3
Operating system	independent
Language support	User menu: English
Cameras	optional, 5 megapixels front
Ethernet / Data	1x 100/1000Base-TX (Ex ec)
Data cable	CAT7 installation cable AWG23
Data cable length	max. 150 m
Interface medium	CAT7 Data transmission
Interface USB	3 x USB (Ex ia) 1 x USB (Ex ec)
Interface serial	1 x RS-232 / RS-422 / RS-485 (Ex ec)
Interface reader	1 x reader / barcode reader interface (Ex i)
Interface reader note	RFID reader, support of the following standards: MIFARE Classic, DESFire, DESFire EV1, LEGIC prime and advant, NFC, INSIDE Secure, Sony FeliCa, ISO 14443A & 15693 1D/2D Barcode scanner: support of all common 1D/2D codes, wired or Bluetooth
Interface audio	1 x Audio line out (Ex e)
Bluetooth	V. 2.1 / 3 / 4.1 / 4.2

Electrical Data	
Bluetooth frequency	2.4 GHz
Front camera	optional, 5 megapixels, in-built
Connection compartment	Power supply direct in integrated Ex e terminal box
Connections	Via plug-in screw terminals, green
Wiring	Flexible conductors 0.2 to 2.5 mm² (AWG24 to AWG14) Rigid conductors 0.2 to 2.5 mm² (AWG24 to AWG14)
Plug version USB	USB-A connector
Max. input voltage U_m	250 VAC
Status LED	LEDs for: - on / off (green) - voltage applied to supply line / power supply OK (orange) - heater on (blue)
Display	
Display version	Sunlight readable display
Display version 2	16.7 million colours
Display size inch	21.5
Display size centimetres	55
Display resolution	1920 x 1080
Total pixels	1920 x 1080
Display dimensions	16:9
Display brightness	1000 cd/m²
Display contrast	1100:1
Touchscreen	projected capacitive (PCAP), multi-touch
Touchscreen technology	projected capacitive (PCAP), protected under glass
Touchscreen activation	capacitive, no activation pressure required
Touchscreen input method	Finger, thin gloved finger or special gloves, conductive stylus
Touchscreen durability	Very good
Touch screen scratch hardness MoHS	6
Touchscreen scratch hardness pencil test ISO15184	9H
Touchscreen transmissivity / optic	very good
Touchscreen surface contaminants	unaffected (may however be affected by conductive fluids such as saltwater)
Touchscreen abrasive resistance	no abrasion by finger or rubber
Backlight	LED Technology
Backlight service life	70000 h at +25 °C
Front plate (display)	Hardened glass front in aluminium enclosure, powder-coated
Function keys	8
Ambient Conditions	
Heater operation	Automatic
Ambient temperature operation	-10 °C … +65 °C
Ambient temperature operation 1	-40 °C … +65 °C with heater
Storage temperature	-40 °C … +70 °C
Cold start temperature	-10 °C or -40 °C
Temperature note 1	The cold-start temperature depends on the "outdoor installation" (with / without heater).

Ambient Conditions	
Temperature note 2	Cold-start temperature: If the HMI device is switched on at temperatures below -10 °C, the electronics and the display will need a certain warm-up time before everything works smoothly and the display starts to be legible. Depending on how low the temperature is, this process may last up to 3 hours.
Heat dissipation	Via heat pipes and cooling fins
Damp heat	+55 °C / 95 %
Damp heat cyclic	+55 °C (±2 °C) ≥ 95 % Humidity location class B
Corrosion resistance	Salt water 5 % NaCl / +20 °C / 2 h 93 % r.H. / +40 °C / 168 h ISA-S71.04-1985, severity G3
Vibration sinus	5 to 13.2 Hz: ±1 mm 13.2 to 100 Hz: ±0.7 g Change cycle 1 oct/min Axis X, Y, Z
Vibration sinus 1	5 to 58 Hz: ±0.075 mm 58 to 500 Hz: ±1 g Change cycle 1 oct/min Axis X, Y, Z
Vibration sinus 2	5 to 1000 Hz 5 g
Shock	18 Schocks 25 g / 6 ms Axis X, Y, Z
Mechanical Data	
Enclosure / Design (1)	VESA 200 Standard
Dimensions (WxHxD) (1)	380 mm x 394 mm x 137 mm (+52 mm for cable entries)
Cable gland type (1)	HSK-MZ-Ex
Cable gland number (1)	3 x M16, 3 x M20, 2 x M25
Cable gland thread size (1)	M16 x 1.5 / M20 x 1.5 / M25 x 1.5
Cable gland cable diameter range (1)	M16 = 4 … 8 mm / M20 = 10 … 14 mm / M25 = 14 … 18 mm
Cable gland wrench size (1)	M16 = SW 19 / M20 = SW 22 / M25 = SW 30
Enclosure / Design (2)	VESA 200 Top Connect
Dimensions (WxHxD) (2)	553 mm x 458 mm x 216 mm
Cable gland type (2)	Screw plug
Cable gland number (2)	3 x M16, 3 x M20
Cable gland thread size (2)	M16 x 1.5 / M20 x 1.5
Mounting possibility	Panel mount with xx8 Mounting-Kit
Cut-out (WxH)	for xx8 Mounting-Kit: 360 mm x 418 mm (±1 mm)
Mounting position	any
Weight	25 kg
Material front	Seawater resistant and coated aluminium, hardened glass
Material back	Seawater-resistant powder coated aluminum
Ingress protection	IP66
IP enclosure front	IP66
IP enclosure back	IP66

Mechanical Data	
Breather	yes, part of the enclosure and device approval
Weight	-
Mounting / Installation	
Enclosure type	Rugged Panel Design (RP)
Enclosure design	VESA 200 Standard, VESA 200 Top Connect
Mounting option	Yoke and wall-mounting, handle and feet, sun protection roof, panel mount (with xx8 Mounting-Kit)
Mounting type	when switched on: a fixed device (stationary, non-portable equipment)
Components	
Keyboard	optional, attached keyboard and pointing device (trackball, joystick or touchpad (Ex ia))