



## Smart Architecture of Espadana

Designing, Production, Customization and Consultant Service  
in Network and Fiber Optic System



## Technical Specification

**SAE-1V1HDM4bK-TRX**

**1 Port HDMI 1080P and 1 Port Analog Video 720TVL and 4 Port BiDirectional Relay**





### Product Description

- Supports both HDMI digital and analog composite video (PAL/NTSC/SECAM 720TVL)
- Modular industrial-grade design ensures reliability and signal stability
- Available in standalone and rack-mount (2U/4U card type) form factors
- FC/SC fiber optic interface available in single-mode or multi-mode versions
- Relay control over fiber allows remote switching and automation commands
- Uncompressed transmission of both video types with ultra-low latency (NRZ method)
- LED indicators for power, link, video, and relay status for easy monitoring

### Full Description

**SAE-1V1HDM4bK-TRX** is a highly versatile fiber optic transceiver designed to handle both digital HDMI and analog video transmission while also supporting remote relay control over fiber. With 1 HDMI port (up to 1080p), 1 analog video input (720TVL composite), and 4 bidirectional relay channels, this unit is ideal for hybrid analog-digital surveillance or automation systems.

This model enables simultaneous full-duplex transmission of digital video, analog signals, and relay commands — making it perfect for installations where legacy systems and modern HDMI-based equipment must coexist over a single fiber infrastructure.

The built-in dry contact relays operate using short-circuit triggering (not voltage-based), allowing remote activation of external devices such as motors, alarms, or lighting systems from both transmitter and receiver sides.

Designed for harsh environments, the **SAE-1V1HDM4bK-TRX** operates reliably from -40°C to +65°C, with robust EMI shielding and industrial-quality components. Both standalone desktop and rack-mounted versions are available. Front panel LED indicators provide live status feedback.



### Application

- Hybrid surveillance systems with old analog + new digital cameras
- Industrial automation with video feedback and relay switching
- Secure facility access control (e.g., door locks, gates via relay)
- Smart traffic management and control rooms
- Oil, gas, and mining control with remote video + I/O
- Border monitoring systems
- Military and government AV + control signal transmission

### Technical Specification

Features	
Transmission signal type: data and audio signal	
Fiber Channel: 1 channel	
Fiber	
Wavelength	1310-1550nm
Tx power	> -8db
Rx sensitivity	> -24db
Fiber connector	FC (SC/ST optional)
HDMI Video	
HDMI standard	HDMI 2.0
Video bandwidth	18Gbps
Video resolution	480i ~1080p50/60Hz, 4Kx2K@24/30Hz, 4kx2k@60Hz
Color space	RGB, YCbCr 4:4:4/4:2:2, YUV 4:2:0
Maximum pixel clock	594MHZ
Effective cable length	≤10M
Physical interface	HDMI female
Analog Video	
Video interface channel	1 channel analog video
Video format	PAL/NTSC/SECAM automatic compatibility
Video bandwidth	6MHz
Video sampling	20MHz high-speed sampling
Differential gain	DG < 1% (typical value)
Differential phase	DP < 0.7° (typical value)
Video signal-to-noise ratio	S/N ≥67dB (weighted)
Video interface	BNC

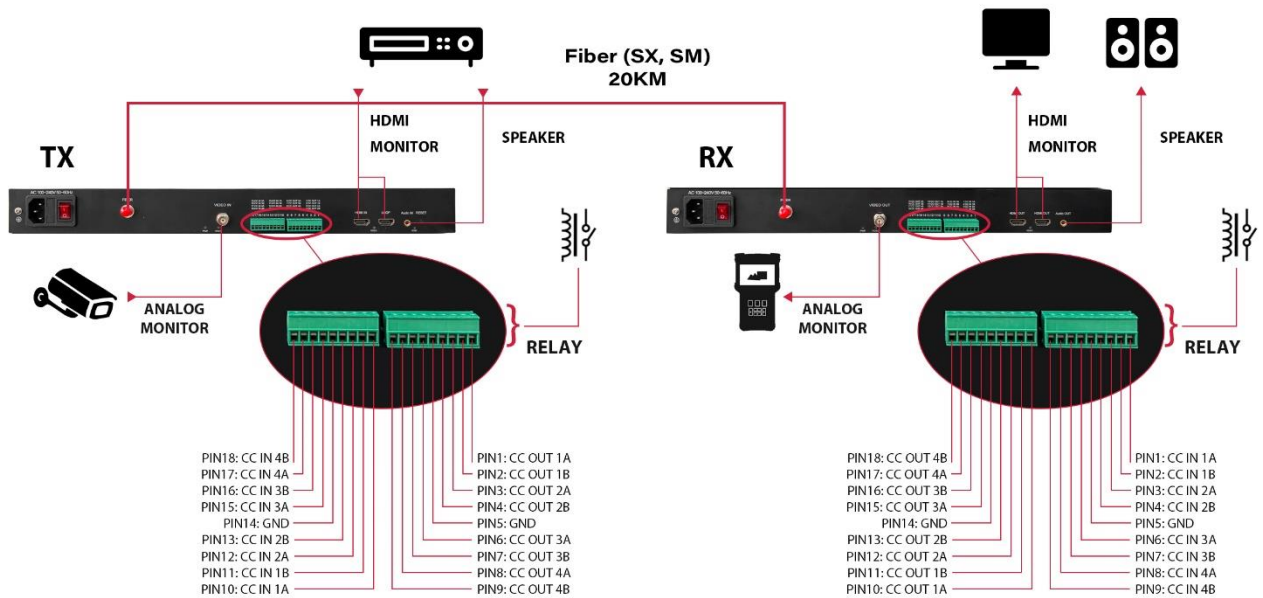


<b>Dry Contact</b>	
Input electrical parameters	Dry node, not charged (short or disconnected)
Output electrical parameters	Dry node, not charged (short or disconnected)
Output relay maximum switching voltage	250VAC/220VDC
Maximum switching current of output relay	2A
Mechanical durability of output relay	100,000,000times
Maximum output power of relay	60W
Open / closed	Always open
Physical interface	Industrial terminal
<b>Power</b>	
Adapt to power supply range	AC100-240V /DC12V
Power supply mode	Built-in power supply
Power consumption	<30W
<b>Mechanical Index</b>	
Chassis	Aluminum alloy
Dimensions	440*200*44mm
Product net weight	1.45kg/pcs
Installation	Desk type
<b>Tempetature</b>	
Operating temperature	-20 to 75°C
Storage temperature	-40 to 85°C
Relative humidity	5 to 95% (non-condensing)
MTBF	> 100,000 hours
<b>Dimensions: 440×200×44mm</b>	

### Table of PINs

TX			RX		
PIN Number	Type	IN/OUT	PIN Number	Type	IN/OUT
1	CC	OUT 1A	1	CC	IN 1A
2	CC	OUT 1B	2	CC	IN 1B
3	CC	OUT 2A	3	CC	IN 2A
4	CC	OUT 2B	4	CC	IN 2B
5	GND	-	5	GND	-
6	CC	OUT 3A	6	CC	IN 3A
7	CC	OUT 3B	7	CC	IN 3B
8	CC	OUT 4A	8	CC	IN 4A
9	CC	OUT 4B	9	CC	IN 4B
10	CC	IN 1A	10	CC	OUT 1A
11	CC	IN 1B	11	CC	OUT 1B
12	CC	IN 2A	12	CC	OUT 2A
13	CC	IN 2B	13	CC	OUT 2B
14	GND	-	14	GND	-
15	CC	IN 3A	15	CC	OUT 3A
16	CC	IN 3B	16	CC	OUT 3B
17	CC	IN 4A	17	CC	OUT 4A
18	CC	IN 4B	18	CC	OUT 4B

### Product Application Display



## Technical Specification of: SAE-1V1HDM4bK-TRX