

## 16 Dry Contact Over IP Converter (with WEB and SNMP management)



### Introduction:

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### Overview:

The industrial grade DIN-rail mounted dry contact to Ethernet converter has an IP40 protection level and is a dry contact server that allows dry contact devices to be immediately networked. It supports 16 channels of DI or DO, with DI supporting dry contact input mode and DO supporting dry contact output and pulse output modes. It has 2 100Mbps Ethernet ports, supporting dual IP and dual MAC addresses/multiple network management or network backup requirements, and can be mounted using a 35mm rail or wall-mounted method.

The device supports multiple network protocols such as **TCP, UDP, ARP, ICMP, HTTP, DNS, DHCP, SNMP, Telnet, and SSH**. It has complete management functions, supporting access control, fast configuration, online upgrades, and supports Modbus TCP and other working modes. It also supports WEB access. Additionally, the accompanying management configuration tool based on the Windows platform can easily network the dry contact devices through simple settings. The network management system has a user-friendly interface design and is easy to operate, providing users with a good experience.

The hardware adopts a fanless, low-power, wide-temperature, and wide-voltage design. It has undergone rigorous testing that complies with industry standards and can adapt to industrial field environments with strict EMC requirements.

## Features:

- The device features an ARM9 processor with a clock speed of 300MHz, running the Linux OS Openwrt system.
- It supports 2 10/100M adaptive Ethernet ports, providing dual IP and dual MAC addresses to meet the needs of multiple network management or network backup.
- The Ethernet interface supports 10/100Base-T adaptive, and supports automatic negotiation (Auto-Nego Full & half duplex) and automatic cross-line detection (MDI/MDIX).
- It supports a total of 16 channels of digital input and output (DI and DO), with DI supporting dry contact input mode and DO supporting dry contact output and pulse output (wet contact) modes.
- It supports **Modbus TCP, TCP Server, TCP Client, UDP Server, UDP Client**, and other working modes.
- It supports SNMP protocol Get and Set commands for reading and setting the input and output status of dry contact devices.
- Each port has indicator lights for the on and off states of the dry contact, and automatic detection of input dry contact states.
- The dry contact input interface comes with a filter to eliminate interference pulses and ensure a stable output of dry contact signals.
- It can perform transparent conversion from **Modbus-RTU to Modbus-TCP**, allowing dry contact device data to be read via network. It supports gateway passing and cross-router communication, as well as automatic recovery of network interruptions.
- It supports standard TCP/IP SOCKET application program access, with TCP supporting multiple connections to allow for up to 4 users to monitor or manage dry contact devices simultaneously.
- In UDP mode, it supports communication between single or multiple devices, allowing multiple users to monitor or manage dry contact devices simultaneously.
- It supports multiple configuration forms, including Windows configuration tools, SSH, Telnet, and WEB, and supports SNMP network management.
- It supports local and remote system firmware upgrades.
- It supports a wide range of 9-55V AC and DC power input, with internal isolation and redundant dual power inputs. The power supply also features overload protection and reverse connection protection, and meets industrial level 4 EMC requirements.

- It features strong lightning protection, with resistance to lightning strikes, induction high voltage, and surge. It has a fanless design for efficient heat dissipation, reducing repair time.
- The device has an anodized aluminum alloy shell, IP40 protection level, and can withstand harsh environments. It can be mounted on a rail or wall.
- Working temperature: -40°C ~ +85°C.
- The device has passed the 100% burn-in test.

## Parameters:

### • 10/100M Ethernet Port

**Protocol:** Compliant with IEEE 802.3ab, IEEE 802.3z

**Rate:** 10/100M adaptive, full/half duplex adaptive

**MAC Address Capacity:** 4096 MAC addresses can be learned

**Physical Interface:** RJ45 support Auto-MDIX

### • Dry Contact Port

**Output interface type:**

**Dry contact:** signal relay dry contact output

**Pulse (wet contact):** Optical MOS relay output, 0-VCC (where VCC is the power supply voltage of the device)

**Response time:**

dry contact output: <1.2ms

Wet contact output <0.6ms

**Relay contact signal:**

Dry contact output 30VDC/0.5A;

Wet contact output: 245VDC/0.12A

Maximum switching frequency: 50HZ

**Output surge protection:**

Dry contact output: None

Wet contact output: TVS + solid discharge tube protection

### • Environmental Index

**Working temperature:** -40°C—+85°C

**Storage temperature:** -40°C—+85°C

**Working humidity:** 0%—95% (non-condensing)

**MTBF:** >100,000 hours

**Specification :**

<b>Product Model</b>	<b>TSM-DCK16-IP</b>
<b>Function Description</b>	Transmit 16*Dry Contact on Ethernet, Industrial DIN-Rail Type
<b>Port Description</b>	16*Dry Contact port; 2*100M Ethernet port
<b>Power Supply</b>	<p><b>Redundant dual power supply input</b> DC9-55V or AC7-43V,  <b>power consumption</b> &lt;5W</p> <p><b>Overload protection:</b> support; reverse polarity protection: support;  redundant protection: support</p> <p><b>Access terminal:</b> 4-core 5.08mm pitch plug-in terminal</p>
<b>Product Size</b>	<p>Shell: IP40 protection grade, aluminum alloy material</p> <p>Dimensions: 133mm(L) x 110mm(W) x 40.0mm(H)</p> <p>Mounting method: DIN-rail mount, wall-mounted</p>
<b>Weight</b>	0.65KG/PCS

Application:

