TMS Web Operation Manual

Publication Date: Jul. 2017

Version: V1.0

KYLAND

Disclaimer:

Kyland Technology Co., Ltd. tries to keep the content in this manual as accurate and as up-to-date as possible. This document is not guaranteed to be error-free, and we reserve the right to amend it without notice.

Website: http://www.kyland.com.cn

FAX: 010-88796678

Email: support@kyland.com

Contents

Preface 1
1 Product Introduction 3
2 TMS Access 4
3 TMS Configuration 6
3.1 TMS Board 6
3.2 TMS Network 7
3.3 GOOSE Subscribe 8
3.4 GOOSE Publish 11
3.5 Load Factory Default 16
3.6 Reload/Active 16
Appendix: Acronyms 17

Preface

This manual mainly introduces the access methods and software features of TMS, and details Web configuration methods.

Content Structure

The manual contains the following contents:

Main Content	Explanation
1. Product introduction	
2. TMS access	
3. TMS configuration	➢ TMS board ➢ TMS network ➢ GOOSE subscribe ➢ GOOSE publish ➢ Load factory default ➢ Reload/Active

Conventions in the manual

1. Text format conventions

Format	Explanation
< >	The content in < > is a button name. For example, click <Apply> button.
[ ]	The content in [ ] is a window name or a menu name. For example, click [File] menu item.
{ }	The content in { } is a portfolio. For example, {IP address, MAC address} means IP address and MAC address are a portfolio and they can be configured and displayed together.
/	Select one option from two or more options that are separated by "/". For example "Addition/Deduction" means addition or deduction.
~	It means a range. For example, "1~255" means the range from 1 to 255.

2. Symbol conventions

Symbol	Explanation
 **Caution**	The matters need attention during the operation and configuration, and they are supplement to the operation description.
 **Note**	Necessary explanations to the operation description.
 **Warning**	The matters call for special attention. Incorrect operation might cause data loss or damage to devices.

1 Product Introduction

Today, the dedicated switches for power and industrial control require more functions than the pure switch functions. Market research shows that switches with dedicated communication functions are nibbling away at the market share of the communication management unit and even the market share of the I/O test and control unit. TMSis designed as an adaptation board for the SICOM3028GPT series switch to enhance the communication and I/O functions of this series of switches.

In the time management system (TMS), TMS card publishes the GOOSEs and other devices subscribe to the GOOSEs to trigger transmission of the MMS messages to monitors in compliance with the IEC61850 protocol. In this way, the monitors can monitor the time synchronization status of devices in the entire network.

GOOSE publishing can be triggered either periodically or by the DI.

2 TMS Access

You can access TMS module through SICOM3028GPT. The precondition for accessing a switch by Web is the normal communication between the PC and the switch.

Note：

IE8.0 or a later version is recommended for the best Web display results.

1. Input "*192.168.0.2*" in the browser address bar. The login interface is displayed, as shown in Figure 1. Input the default user name "admin", password "123", click <Login>.

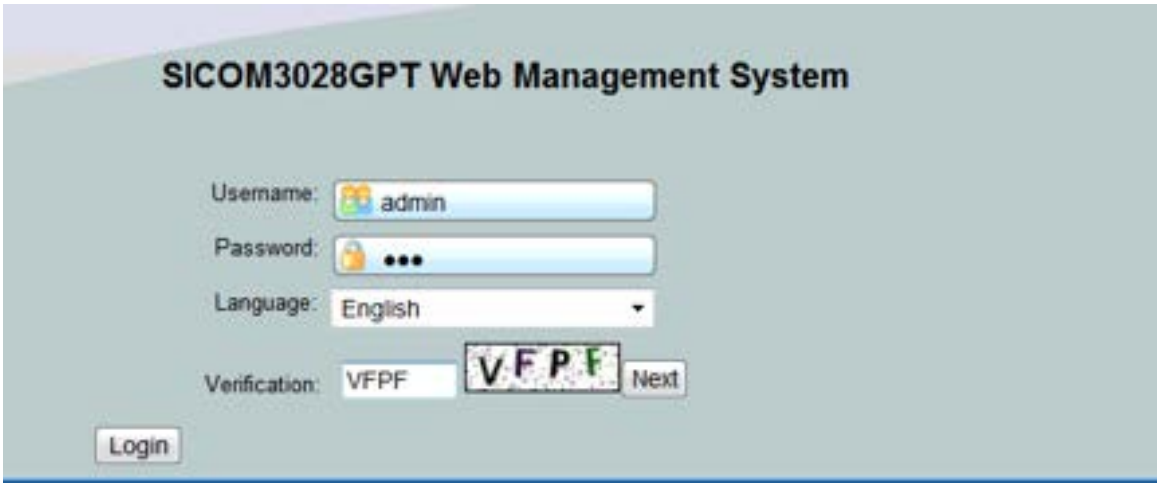

Figure 1 Web Login

The English login interface is displayed by default. You can select <中文> to change to the Chinese login interface.

2. The prompt of modifying the initial password is displayed, click <OK> button.

3. After you log in successfully, there is a navigation tree on the left of the interface, as shown in Figure 2.

Figure 2 Web Interface

In the top right corner, you can click <中文> to change language to Chinese or <Exit> to exit the Web interface.

4. TMS configuration consists of six parts, including TMS board, TMS network, GOOSE subscribe, GOOSE publish, load factory default and Reload/Active, as shown in Figure 3.

Figure 3 The Navigation Tree of TMS Configuration

3 TMS Configuration

3.1 TMS Board

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[TMS Board] to enter the TMS board configuration, as shown in Figure 4.

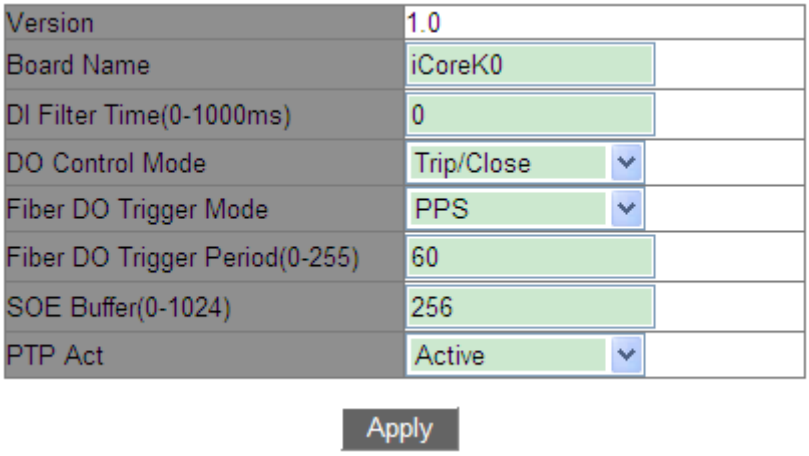

Figure 4 TMS Board Configuration

Version

Function: display the currently configured software version.

Board Name

Range: 1~128 characters

Default: iCoreK0

Function: defines the card name.

DI Filter Time

Range: 0~1000ms

Default: 0ms

Function: defines the filter debounce time of DI input (Reserved parameter).

DO Control Mode

Options: Trip/Close, Latch

Default: Trip/Close

Function: defines the control mode of DO output (Reserved parameter).

Fiber DO Trigger Mode

Options: PPS/PPM/PPH

Default: PPS

Function: defines the triggering mode of fiber DO.

Fiber DO Trigger Period

Range: 0~255

Default: 60

Function: defines the triggering interval of fiber DO. This parameter is used together with Fiber DO Trigger Mode. For example, if the Fiber DO Trigger Mode is set to PPM, the period 10 indicates that fiber DO is triggered every 10 minutes.

SOE Buffer

Range: 0~1024

Default: 256

Function: defines the length of the SOE queue.

PTP Act

Options: Active/Unactive

Default: Active

Function: defines the PTP synchronization enabling status of the card. If this parameter is set to Disable, PPT synchronization is disabled. If this parameter is set to Enable, PPT synchronization is enabled.

3.2 TMS Network

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[TMS Network] to enter the TMS network configuration, as shown in Figure 5.

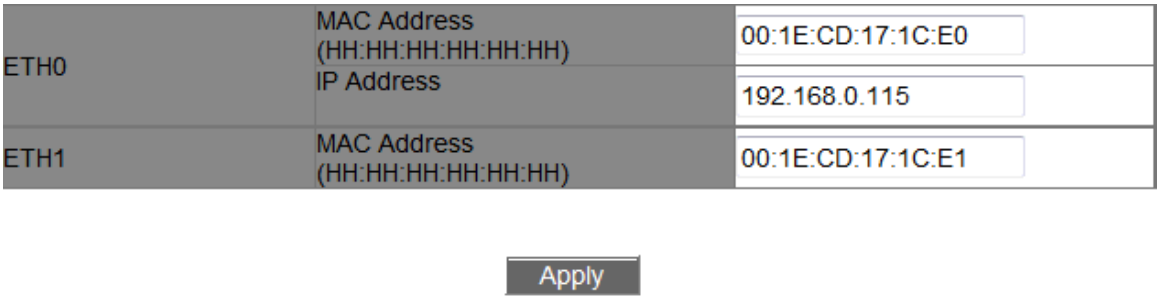

Figure 5 TMS Network Configuration

ETH0-MAC Address

Function: display the MAC address bound with ETH0, this port corresponds to the fourth port of the inserted slot. It is used to be communication interface.

ETH0-IP Address

Default: 192.168.0.115

Function: defines the IP address of ETH0.

ETH1-MAC Address

Function: display the MAC address bound with ETH1, this port corresponds to the first port of the inserted slot. It is used to send GOOSE packets.

3.3 GOOSE Subscribe

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[GOOSE Subscribe] →[GSE Entries] to enter the GOOSE subscribe configuration, as shown in Figure 6.

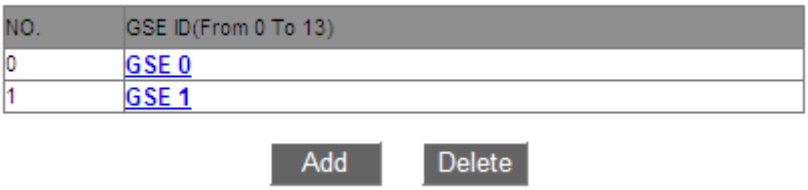

Figure 6 Adding /deleting a GSE entry

Click <Add> button to add a GOOSE subscription entry. The added GOOSE subscription entries are numbered sequentially from 0 to 13, and the entry number cannot be modified. After an entry is successfully added, it is displayed in the GSE entry list.

Click <Delete> button to delete a GOOSE subscription entry. GOOSE subscription entries must be deleted sequentially from 13 to 0, and the deletion sequence cannot be modified. After a GOOSE subscription entry is successfully deleted, it is removed from the GSE entry list.

You can click an entry in the GSE entry list to enter the GOOSE subscription entry configuration page. On this configuration page, you can configure the GOOSE transmission parameters (Figure 7) and the GOOSE data parameters (Figure 8).

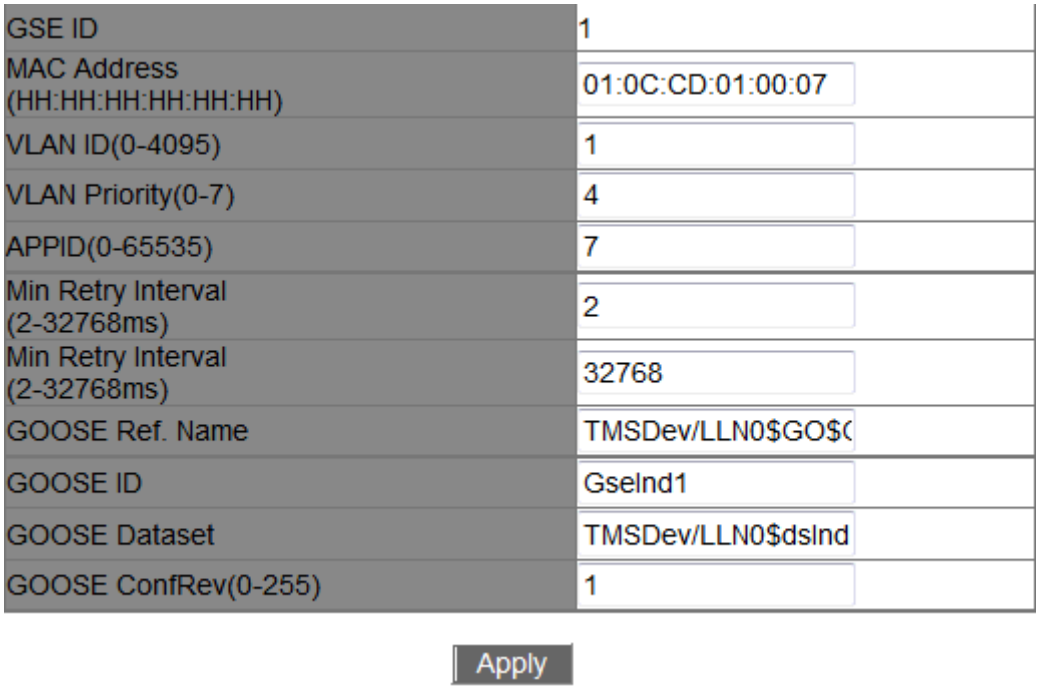

Figure 7 Configuring GOOSE Transmission Parameters

GSE ID

Function: display the number of the GOOSE control block.

MAC Address

Function: defines the destination MAC address of multicast.

VLAN ID

Range: 0~4095

Default: 1

Function: configure the VLAN ID。

VLAN Priority

Range: 0~7

Default: 4

Function: configure the VLAN priority.

APPID

Range: 0~65535

Default: 1

Function: defines the GOOSE APPID.

Min Retry Interval

Range: 2~32768ms

Default: 2ms

Function: defines the minimum interval at which the GOOSE is retransmitted.

Max Retry Interval

Range: 2~32768ms

Default: 32768ms

Function: defines the maximum interval at which the GOOSE is retransmitted.

GOOSE Ref. Name

Range: 1~128 characters

Function: defines the name of the instance referenced by the GOOSE.

GOOSE ID

Range: 1~64 characters

Function: defines the GOOSE ID.

GOOSE Dataset

Range: 1~128 characters

Function: defines the name of the data set bound with the GOOSE.

GOOSE ConfRev

Range: 0~255

Default: 1

Function: defines the GCB revision number.

Figure 8 Configuring GOOSE Data Parameters

Click <Add> button to add a data entry. The added data entries are numbered sequentially from 0 to 15, and the entry number cannot be modified. After an entry is successfully added, it is displayed in the data entry list.

In the **Data NO.** edit box, enter the number of the data entry to be deleted, and click <Delete> button to delete a data entry. Data entries must be delet ed sequentially from 15

to 0, and the deletion sequence cannot be modified. After an entry is successfully deleted, it is removed from the data entry list.

In the **Data NO.** edit box, enter the number of the data entry to be modified, and click <Modify> button to edit a data entry.

Data NO.

range: 0~15

function: defines the number of the GOOSE subscription data entry.

Data Attribute

Options: Value, Quality, Time, Quality/Time

Default: Value

Function: defines the property of the data object contained in the data entry.

Data Type

Options: Boolean/Int/Float32/Coded Enum

Default: Boolean

Function: defines the type of the data item in the data entry.

Length

Range: 0~255

Default: 0

Function: defines the encoding length of the data item.

VInx

Range: 0~15

Default: 0

Function: defines the number that is mapped to the local virtual terminal.

3.4 GOOSE Publish

1. Configure GOOSE publishing parameters triggered DI.

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[GOOSE Publish] →[GSE I/O] to configure GOOSE publishing parameters triggered DI, as shown inFigure 9.

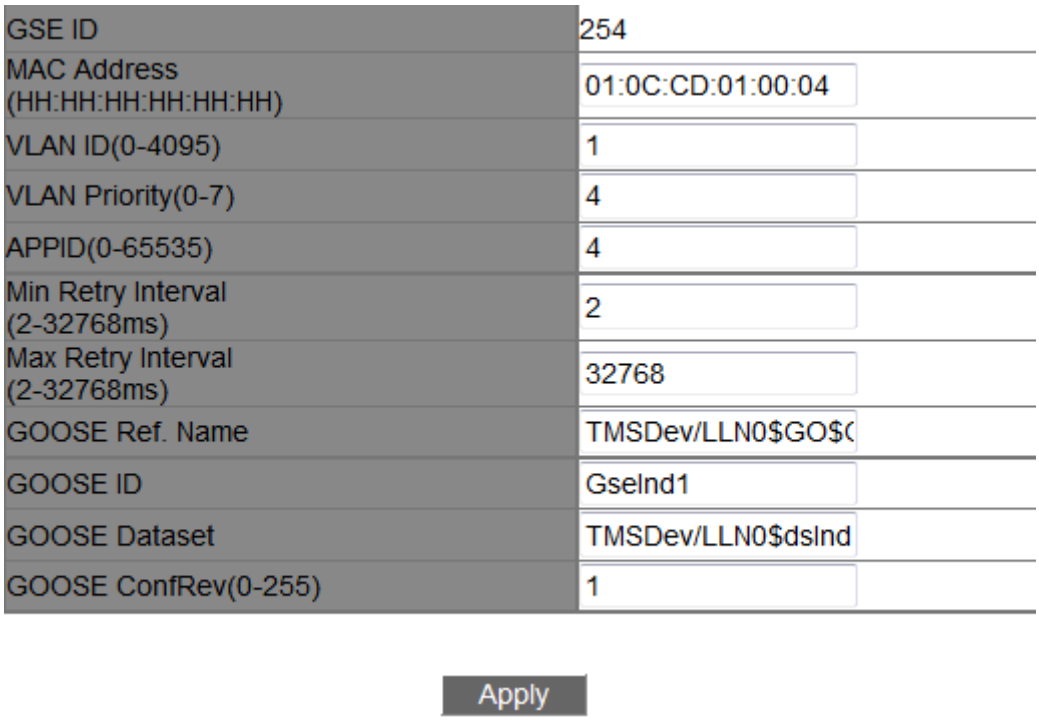

Figure 9 Configuring GOOSE Publishing Parameters Triggered DI

GSE ID

Function: display the number of the GOOSE control block.

MAC Address

Function: defines the destination MAC address of multicast.

VLAN ID

Range: 0~4095

Default: 1

Function: configure the VLAN ID。

VLAN Priority

Range: 0~7

Default: 4

Function: configure the VLAN priority.

APPID

Range: 0~65535

Default: 4

Function: defines the GOOSE APPID.

Min Retry Interval

Range: 2~32768ms

Default: 2ms

Function: defines the minimum interval at which the GOOSE is retransmitted.

Max Retry Interval

Range: 2~32768ms

Default: 32768ms

Function: defines the maximum interval at which the GOOSE is retransmitted.

GOOSE Ref. Name

Range: 1~128 characters

Function: defines the name of the instance referenced by the GOOSE.

GOOSE ID

Range: 1~64 characters

Function: defines the GOOSE ID.

GOOSE Dataset

Range: 1~128 characters

Function: defines the name of the data set bound with the GOOSE.

GOOSE ConfRev

Range: 0~255

Default: 1

Function: defines the GCB revision number.

2. Configure GOOSE publishing parameters triggered periodically .

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[GOOSE Publish] →[GSE Trigger] to configure GOOSE publishing parameters triggered periodically , as shown Figure 10.

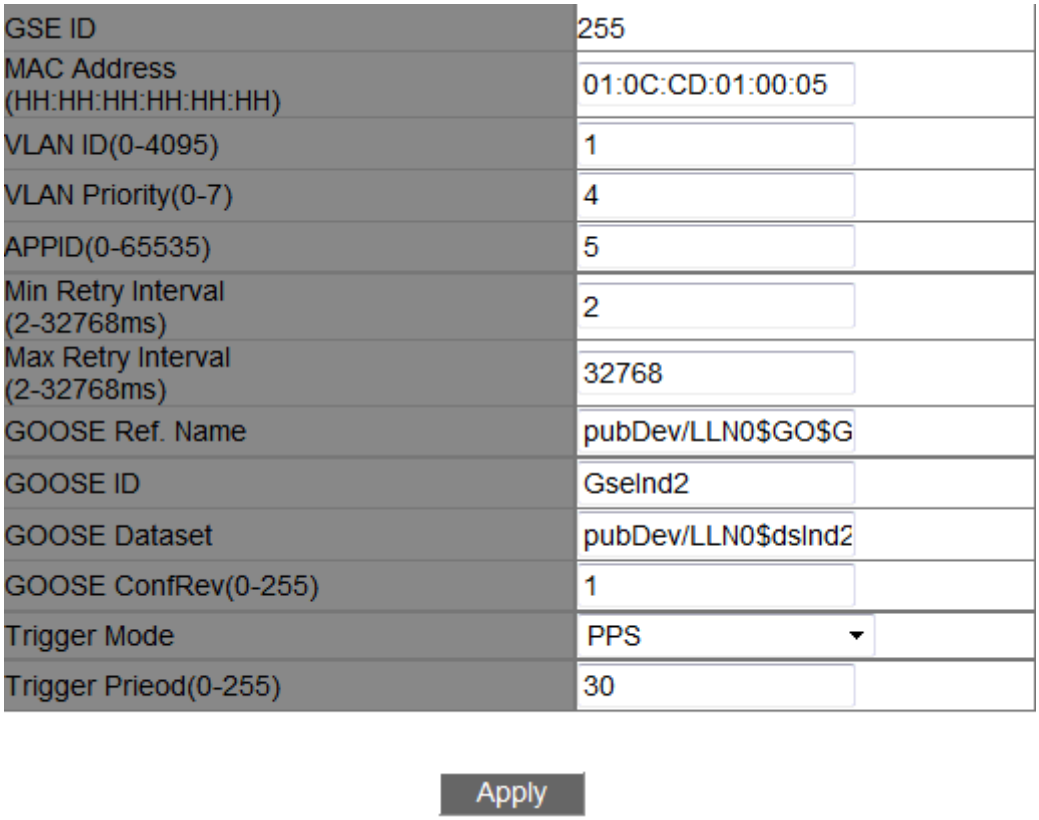

Figure 10 Configuring GOOSE Publishing Parameters Triggered Periodically

GSE ID

Function: display the number of the GOOSE control block.

MAC Address

Function: defines the destination MAC address of multicast.

VLAN ID

Range: 0~4095

Default: 1

Function: configure the VLAN ID.

VLAN Priority

Range: 0~7

Default: 4

Function: configure the VLAN priority.

APPID

Range: 0~65535

Default: 5

Function: defines the GOOSE APPID.

Min Retry Interval

Range: 2~32768ms

Default: 2ms

Function: defines the minimum interval at which the GOOSE is retransmitted.

Max Retry Interval

Range: 2~32768ms

Default: 32768ms

Function: defines the maximum interval at which the GOOSE is retransmitted.

GOOSE Ref. Name

Range: 1~128 characters

Function: defines the name of the instance referenced by the GOOSE.

GOOSE ID

Range: 1~64 characters

Function: defines the GOOSE ID.

GOOSE Dataset

Range: 1~128 characters

Function: defines the name of the data set bound with the GOOSE.

GOOSE ConfRev

Range: 0~255

Default: 1

Function: defines the GCB revision number.

Trigger Mode

Options: PPS/PPM/PPH

Default: PPS

Function: defines the GOOSE triggering mode.

Trigger Period

Range: 0~255

Default: 60

Function: defines the GOOSE triggering interval. This parameter is used together with the

Trigger Mode. For example, if the Trigger Mode is set to PPM, the period 10 indicates that GOOSE is triggered every 10 minutes.

3.5 Load Factory Default

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[Load Factory Default] to restore the default configuration of all TMS parameters.

After the default configuration is restored, you need to reboot the TMS before the default configuration can take effect, as shown Figure 11.

Figure 11 Reload/active TMS configuration

3.6 Reload/Active

Click [Device Advanced Configuration]→[TMS Configuration]→[TMS SubCard1]→[Reload/Active] to reload/Active the TMS module, making the lastest TMS parameters configuration take effect, as shown Figure 12.

Figure 12 Reload/active TMS configuration

Appendix: Acronyms

Acronym	Full Spelling
TMS	Time Management System
MMS	Manufacturing Message Specification
GOOSE	Generic Object Oriented Substation Events