



**TANGO
Device
Server**

Siemens PLC Relay Commands User's Guide

SiemensPLC_Relay Class

**Revision: 1.1 - Author: dupuy
Implemented in C++**

Introduction:

This class is dedicated for PSS application to open and/or close two relays through a PLC. The PSS application is redundant, that is why there are two controlled relays.

Class Inheritance:

- Tango::Device_3Impl
 - SiemensPLC_Relay

Properties:

Device Properties		
Property name	Property type	Description
PLCServerProxy	Tango::DEV_STRING	The name of the PLCServer
DBNumber	Tango::DEV_LONG	Data Block address in the PLC default : 1 from 1 to max possible in the PLC CPU
InputOffset	Tango::DEV_LONG	Input offset of the beginning of the data in the DB
InputLength	Tango::DEV_LONG	Input length of the data in the DB
OutputOffset	Tango::DEV_LONG	Input length of the data in the DB
OutputLength	Tango::DEV_LONG	Output length of the data in the DB
WordRelayAddress	Tango::DEV_LONG	The offset address in the PLC, of the relay (in word) Careful : this offset must be par !
BitRelayAddress	Tango::DEV_SHORT	The offset address bit in the PLC, of the relay. Careful : from 0 to 15.
StateOffsetWord	Tango::DEV_LONG	The offset in word to read the state
StateOffsetBit	Tango::DEV_SHORT	The offset in word to read the state (between 0 to 15

Device Properties Default Values:

Property Name	Default Values
PLCServerProxy	No default value
DBNumber	No default value
InputOffset	No default value
InputLength	No default value
OutputOffset	No default value
OutputLength	No default value
WordRelayAddress	No default value
BitRelayAddress	No default value
StateOffsetWord	No default value
StateOffsetBit	No default value

There is no Class properties.

States:

States	
Names	Descriptions
CLOSE	The relay is closed
FAULT	The relay is may be in an unknown state
OPEN	The relay is opened

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
Open	DEV_VOID	DEV_VOID
Close	DEV_VOID	DEV_VOID

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection. After an Init command executed on a device, it is not necessary for client to re-connect to the device. This command first calls the device *delete_device()* method and then execute its *init_device()* method. For C++ device server, all the memory allocated in the *nit_device()* method must be freed in the *delete_device()* method. The language device desctructor automatically calls the *delete_device()* method.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::CLOSE

- Tango::FAULT
- Tango::OPEN

2 - State

- **Description:** This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_STATE : State Code
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

3 - Status

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
CONST_DEV_STRING : Status description
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

4 - Open

- **Description:** Open the relay
- **Argin:**
DEV_VOID : no argin
- **Argout:**
DEV_VOID : no argout
- **Command allowed for:**

- Tango::CLOSE
- Tango::FAULT
- Tango::OPEN

5 - Close

- **Description:** Close the relay
- **Argin:**
DEV_VOID : no argin
- **Argout:**
DEV_VOID : no argout
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

ESRF - Software Engineering Group



TANGO
Device
Server

Siemens PLC Relay Commands User's Guide

SiemensPLC_Relay Class

Revision: 1.1 - Author: dupuy
Implemented in C++

Introduction:

This class is dedicated for PSS application to open and/or close two relays through a PLC. The PSS application is redundant, that is why there are two controlled relays.

Class Inheritance:

- Tango::Device_3Impl
 - SiemensPLC_Relay

Properties:

Device Properties		
Property name	Property type	Description
PLCServerProxy	Tango::DEV_STRING	The name of the PLCServer
DBNumber	Tango::DEV_LONG	Data Block address in the PLC default : 1 from 1 to max possible in the PLC CPU
InputOffset	Tango::DEV_LONG	Input offset of the beginning of the data in the DB
InputLength	Tango::DEV_LONG	Input length of the data in the DB
OutputOffset	Tango::DEV_LONG	Input length of the data in the DB
OutputLength	Tango::DEV_LONG	Output length of the data in the DB
WordRelayAddress	Tango::DEV_LONG	The offset address in the PLC, of the relay (in word) Careful : this offset must be par !
BitRelayAddress	Tango::DEV_SHORT	The offset address bit in the PLC, of the relay. Careful : from 0 to 15.
StateOffsetWord	Tango::DEV_LONG	The offset in word to read the state
StateOffsetBit	Tango::DEV_SHORT	The offset in word to read the state (between 0 to 15

Device Properties Default Values:

Property Name	Default Values
PLCServerProxy	No default value
DBNumber	No default value
InputOffset	No default value
InputLength	No default value
OutputOffset	No default value
OutputLength	No default value
WordRelayAddress	No default value
BitRelayAddress	No default value
StateOffsetWord	No default value
StateOffsetBit	No default value

There is no Class properties.

States:

States	
Names	Descriptions
CLOSE	The relay is closed
FAULT	The relay is may be in an unknown state
OPEN	The relay is opened

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
Open	DEV_VOID	DEV_VOID
Close	DEV_VOID	DEV_VOID

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection. After an Init command executed on a device, it is not necessary for client to re-connect to the device. This command first calls the device *delete_device()* method and then execute its *init_device()* method. For C++ device server, all the memory allocated in the *nit_device()* method must be freed in the *delete_device()* method. The language device desctructor automatically calls the *delete_device()* method.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::CLOSE

- Tango::FAULT
- Tango::OPEN

2 - State

- **Description:** This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_STATE : State Code
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

3 - Status

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
CONST_DEV_STRING : Status description
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

4 - Open

- **Description:** Open the relay
- **Argin:**
DEV_VOID : no argin
- **Argout:**
DEV_VOID : no argout
- **Command allowed for:**

- Tango::CLOSE
- Tango::FAULT
- Tango::OPEN

5 - Close

- **Description:** Close the relay
- **Argin:**
DEV_VOID : no argin
- **Argout:**
DEV_VOID : no argout
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

ESRF - Software Engineering Group

Frame Alert

This document is designed to be viewed using the frames feature. If you see this message, you are using a non-frame-capable web client.
[Link to Non-frame version.](#)



Siemens PLC Relay Commands

Device Commands Description

SiemensPLC_Relay Class

Revision: 1.1 - Author: dupuy

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection. After an Init command executed on a device, it is not necessary for client to re-connect to the device.
This command first calls the device *delete_device()* method and then execute its *init_device()* method.
For C++ device server, all the memory allocated in the *init_device()* method must be freed in the *delete_device()* method.
The language device desctructor automatically calls the *delete_device()* method.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::CLOSE
 - Tango::FAULT
 - Tango::OPEN

2 - State

- **Description:** This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_STATE : State Code

- **Command allowed for:**

- Tango::CLOSE
- Tango::FAULT
- Tango::OPEN

3 - Status

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.

- **Argin:**

DEV_VOID : none.

- **Argout:**

CONST_DEV_STRING : Status description

- **Command allowed for:**

- Tango::CLOSE
- Tango::FAULT
- Tango::OPEN

4 - Open

- **Description:** Open the relay

- **Argin:**

DEV_VOID : no argin

- **Argout:**

DEV_VOID : no argout

- **Command allowed for:**

- Tango::CLOSE
- Tango::FAULT
- Tango::OPEN

5 - Close

- **Description:** Close the relay

- **Argin:**

DEV_VOID : no argin

- **Argout:**

DEV_VOID : no argout

● **Command allowed for:**

- Tango::CLOSE
- Tango::FAULT
- Tango::OPEN

ESRF - Software Engineering Group