**SCADA\_DEV\_RPU**

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| **Version** | **Release Notes** |
| 2.2 | Revised to Improve Inheritance of Descriptions in the PLC |

**Description**: This UDT is used for mapping of PLC status Registers.

**Naming Convention**: There will be one tag in each PLC that uses this UDT with the name BXX\_RPUY\_001, where BXX represents the facility and area the PLC is installed in and Y represent a numeric identifier for the PLCs in that area.

**UDT Members**

| **UDT Member** | **Datatype** | **Description** | **Usage** |
| --- | --- | --- | --- |
| PLC\_Security\_Alarm | BOOL | Indicates Unauthorized Programming Has Occurred | Used in Security Routine |
| Enable\_PLC\_Security | BOOL | Enables Unauthorized Programming Detection in the PLC | Used in Security Routine` |
| DO\_SU | BOOL | Update PLC Clock with SCADA Clock Settings | Used in GEN\_HK routine |
| FIRST\_SCAN | BOOL | PLC First Scan Bit | Used in Processor Status Routine |
| KEY\_RUN | BOOL | Processor Keyswitch in Run Mode | Used in Processor Status Routine |
| KEY\_PROGRAM | BOOL | Processor Keyswitch in Program Mode | Used in Processor Status Routine |
| KEY\_REMOTE | BOOL | Processor Keyswitch in Remote Mode | Used in Processor Status Routine |
| CONTROLLER\_FAULTED | BOOL | Major PLC Fault Present | Used in Fault Handling Routine |
| CONTROLLER\_RUN | BOOL | Processor in Run Mode | Used in Processor Status Routine |
| CONTROLLER\_PROGRAM | BOOL | Processor in Program Mode | Used in Processor Status Routine |
| CONTROLLER\_TEST | BOOL | Processor in Test Mode | Used in Processor Status Routine |
| FORCES\_PRESENT | BOOL | Force Values Present in PLC | Used in Processor Status Routine |
| FORCES\_ENABLED | BOOL | Force Values Enabled in PLC | Used in Processor Status Routine |
| MAJORFAULT\_WATCHDOG | BOOL | The PLC has halted due to a Watchdog Error | Used in Fault Handling Routine |
| MAJORFAULT\_STARTUP | BOOL | The PLC has halted on Startup | Used in Fault Handling Routine |
| MINORFAULT\_BATTERY\_LOW | BOOL | The PLC Battery or Energy Storage Device is low | Used in Minor Faults Routine |
| MINORFAULT\_IO | BOOL | Minor Fault with IO | Used in Minor Faults Routine |
| MINORFAULT\_PROGRAM | BOOL | Minor Fault during Program Execution | Used in Minor Faults Routine |
| STATUS | INT | PLC Status Word | Used in Processor Status Routine |
| FORCE\_STATUS | INT | PLC Force Status Word | Used in Processor Status Routine |
| AO\_YY | DINT | Year from HMI | Used in Housekeeping Routine |
| AO\_MM | DINT | Month from HMI | Used in Housekeeping Routine |
| AO\_DY | DINT | Day from HMI | Used in Housekeeping Routine |
| AO\_HS | DINT | Hour from HMI | Used in Housekeeping Routine |
| AO\_MS | DINT | Minute from HMI | Used in Housekeeping Routine |
| AO\_SN | DINT | Second from HMI | Used in Housekeeping Routine |
| MINOR\_FAULTS | DINT | PLC Minor Faults Word | Used in Minor Faults Routine |
| MAJOR\_FAULTS | DINT | PLC Major Faults Word | Used in Fault Handling Routine |
| MAJOR\_FAULT\_TYPE | DINT | Major Fault Type ID | Used in Fault Handling Routine |
| MAJOR\_FAULT\_CODE | DINT | Major Fault Code | Used in Fault Handling Routine |
| MAJOR\_FAULT\_INFO | DINT | Major Fault information | Used in Fault Handling Routine |
| Wallclock\_New\_Calendar | DINT[7] | Holding Register for Date and Time update to PLC | Used in housekeeping routine |
| PLC\_Security\_Timer | TIMER | Security Violation Delay Timer | Used in security routine |
| PLC\_Security\_ReNotify\_Timer | TIMER | Security Violation Re-notify Timer | Used in security routine |
| Heartbeat | TIMER[2] | PLC heartbeat toggle timers | Used in heartbeat routine |
| Major\_Fault\_Results | MAJOR\_FAULTS\_1 | Holding Register for Major Fault data from PLC | Used in Fault Handling Routine |
| CK | SCADA\_SYS\_DATE\_V1\_0 | PLC current date and time | Used in housekeeping routine |

**AOI**

There is no AOI associated with this UDT.

**Programming Examples**

The tags in this UDT are used to monitor and set processor information. The routines that use these tags are pre-programmed as part of the standard PLC baseload and generally do not require modification by the programmer, with the following exceptions:

If a program is added to the Main Task it must be added to the security routine for detection of unauthorized modifications.

If a PLC is to have multiple read blocks the heartbeat code should be modified to toggle the heartbeat bit in each read block.

**HMI Integration**

Processor status information is implemented on the “Logix Processor Status” window in the InTouch Baseload. Existing applications will have one or more screens displaying this information. When adding a new processor to a facility Programmers should copy an existing column in the application and perform a substitute tag operation to update the tag values. Developers shall ensure that the text format of the Time and Date fields follow the format shown in the InTouch Baseload to properly show leading zeros for all date and time fields. If the new PLC will not be performing any peer-to-peer reads from another PLC the Comm Status information can be deleted.

When a new PLC is added to the system the PLCTimeDateSync Quickfunction must be updated so the PLC will be synchronized with the server time when the Quickfunction is called.