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LIGO-E1300780-v2

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11/10/2014

TwinCAT Library for PLCInfo

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| Library | |
|----------------------|--|
| Title | PLCInfo |
| Version | 1 |
| TwinCAT version | V2.11.0 |
| Name space | |
| Author | Daniel Sigg |
| Description | Information about PLC status/location Includes system information |
| Error Code | None |
| Library Dependencies | Error, SaveRestore, TcSystem |

| User Interface Type | |
|---|--------------------------------|
| TYPE IfoldEnum : (IfoH1, IfoL1, IfoH2, IfoT1, IfoI1) END_TYPE; | |
| Type Name | IfoldEnum |
| Description | Identification of IFO |
| Definition | ENUM |
| Element | Name: IfoH1 Description: H1 |
| Element | Name: IfoL1 Description: L1 |
| Element | Name: IfoH2 Description: H2 |
| Element | Name: IfoT1 Description: T1 |
| Element | Name: IfoI1 Description: I1 |

| User Interface Type | |
|---|--|
| TYPE LocationIdEnum : (Corner, EndX, EndY, MidX, MidY) END_TYPE; | |
| Type Name | LocationIdEnum |
| Description | Location of PLC |
| Definition | ENUM |
| Element | Name: Corner Description: Located in Corner station |
| Element | Name: EndX Description: Located in EX station |
| Element | Name: EndY Description: Located in EY station |
| Element | Name: MidX Description: Located in MX station |
| Element | Name: MidY Description: Located in MY station |

| User Interface Type | |
|------------------------------------|---|
| TYPE PlcTaksInfoStruct : | |
| STRUCT | |
| Active: BOOL; | |
| Name: STRING(16); | |
| Priority: DINT; | |
| CycleCount: UDINT; | |
| CycleTime: LREAL; | |
| LastExecTime: LREAL; | |
| CycleTimeExceeded: BOOL; | |
| CycleTimeError: UDINT; | |
| END_STRUCT | |
| END_TYPE; | |
| Type Name | PlcTaksInfoStruct |
| Description | Structure used in the user interface to describe the information for all available tasks in the PLC. |
| Definition | STRUCT |
| Output Tag | Name: Active Type: BOOL Description: True if task is configured and active |
| Output Tag | Name: Name Type: STRING(16) Description: Name of task |
| Output Tag | Name: Priority Type: DINT Description: Priority of task |
| Output Tag | Name: CycleCount Type: UDINT Description: Cycle count of task |
| Output Tag | Name: CycleTime Type: LREAL Description: Predefined cycle time in μ s |
| Output Tag | Name: LastExecTime Type: LREAL Description: Cycle time of last executed cycle in μ s. |
| Output Tag | Name: CycleTimeExceeded Type: BOOL Description: True if cycle time exceeded allocated time. |
| Output Tag | Name: CycleTimeError Type: UDINT Description: Error counter (updated at rate of task running PLCInfo) |

| User Interface Type | |
|----------------------------|--|
| TYPE PlcInfoStruct : | |
| STRUCT | |
| Ifold: | IfoldEnum; |
| LocationId: | LocationIdEnum; |
| Status: | ErrorStruct; |
| SvnRevision: | DINT; |
| StartTime: | TIMESTRUCT; |
| CurrentTime: | TIMESTRUCT; |
| Hostname: | T_MaxString; |
| CpuUsage: | UDINT; |
| SysLatencyActual: | UDINT; |
| SysLatencyMax: | UDINT; |
| RuntimeNumber: | DINT; |
| ProjectName: | STRING(32); |
| NumberOfTasks: | DINT; |
| OnlineChangeCount: | DINT; |
| RetainLoaded: | BOOL; |
| PersistantLoaded: | BOOL; |
| Task: | ARRAY [1..4] OF PlcTaksInfoStruct; |
| END_STRUCT; | |
| END_TYPE; | |
| Type Name | PlcInfoStruct |
| Description | Structure used in the user interface |
| Definition | STRUCT |
| Output Tag | Name: Ifold Type: IfoldEnum Description: Interferometer identification |
| Output Tag | Name: LocationId Type: LocationIdEnum Description: Building Location |
| Output Tag | Name: Status Type: ErrorStruct Description: Calls error handler |
| Output Tag | Name: SvnRevision Type: DINT Description: Subversion Revision |
| Output Tag | Name: StartTime Type: TIMESTRUCT Description: PLC start time |

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| Output Tag | Name: CurrentTime Type: TIMESTRUCT Description: PLC current time |
| Output Tag | Name: ElapsedTime Type: DINT Description: Elapsed time since last restart in sec |
| Output Tag | Name: Hostname Type: T_MaxString Description: PLC host name |
| Output Tag | Name: CpuUsage Type: UDINT Description: CPU usage |
| Output Tag | Name: SysLatencyActual Type: UDINT Description: Actual system latency |
| Output Tag | Name: SysLatencyMax Type: UDINT Description: Max system latency |
| Output Tag | Name: RuntimeNumber Type: DINT Description: PLC runtime number |
| Output Tag | Name: ProjectName Type: STRING(32) Description: Name of PLC project |
| Output Tag | Name: NumberOfTasks Type: DINT Description: Number of active tasks in current PLC |
| Output Tag | Name: OnlineChangeCount Type: DINT Description: The number of online changes made since the last complete download |
| Output Tag | Name: RetainLoaded Type: BOOL Description: Valid retain data loaded |
| Output Tag | Name: PersistentLoaded Type: BOOL Description: Valid persistent data loaded |
| Output Tag | Name: Task Type: ARRAY [1..4] OF PlcTaksInfoStruct Description: Information on active tasks |

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| Function Block TYPE PlcInfoFB: VAR_INPUT Request: SaveRestoreEnum; Ifo: IfoldEnum; Loc: LocationIdEnum; Svn: DINT; Status: ErrorStruct; END_VAR; VAR_OUTPUT CurrentTime: TIMESTRUCT; CurrentTimeValid: BOOL; END_VAR; VAR_IN_OUT Plc: PlcInfoStruct; END_VAR; END_TYPE; | |
| Type Name | PlcInfoFb |
| Description | Function block used to monitor the PLC status/location |
| Definition | Function Block |
| Input Argument | Name: Request Type: SaveRestoreEnum Description: Request for save/restore/safe mode or noop |
| Input Argument | Name: Ifo Type: IfoldEnum Description: IFO identification |
| Input Argument | Name: Loc Type: LocationIdEnum Description: Location ID |
| Input Argument | Name: Svn Type: DINT Description: Subversion status |
| Input Argument | Name: Status Type: ErrorStruct Description: Calls error handler |
| Output Argument | Name: CurrentTime Type: TIMESTRUCT Description: Current time |
| Output Argument | Name: CurrentTimeValid Type: BOOL Description: Current time valid |

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|-----------------|---|
| In/out Argument | Name: Plc Type: PlcInfoStruct Description: User interface structure |
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