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TwinCAT Library for Fiber Distribution

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LIGO Scientific Collaboration

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Library	
Title	Fiber Distribution
Version	1
TwinCAT version	V2.11.0
Name space	
Author	Daniel Sigg
Description	Monitors the fiber distribution
Error Code	16#01 — Power supply voltages out-of-range 16#02 — RF power level out-of-range 16#04 — External PD 16#08 — Internal PD
Library Dependencies	DCPower, DelayLogic, Demodulator, Error, IscWhitening, Photodetectors, ReadADC, SaveRestore, WriteDAC

User Interface Type	
<pre> TYPE FiberDistributionInStruct : STRUCT RfMon: INT; ExternalPdMon: INT; InternalPdMon: INT; PowerOk: INT; END_STRUCT; END_TYPE; </pre>	
Type Name	FiberDistributionInStruct
Description	Input Structure used in the user interface
Definition	STRUCT
Output Tag	Name: RfMon Type: INT Description: Monitors the RF power after the amp in dBm
Output Tag	Name: ExternalPdMon Type: INT Description: Monitors the external PD readback
Output Tag	Name: InternalPdMon Type: INT Description: Monitors the internal PD readback
Output Tag	Name: PowerOk Type: INT Description: Voltage monitor readback

User Interface Type TYPE FiberDistributionOutStruct : STRUCT Dummy: BOOL; END_STRUCT; END_TYPE;	
Type Name	FiberDistributionOutStruct
Description	Output Structure used in the user interface
Definition	STRUCT
Output Tag	Name: Dummy Type: BOOL Description: Dummy variable

User Interface Type TYPE FiberDistributionStruct : STRUCT Error: ErrorStruct; RfMon: LREAL; RfNom: LREAL; External: LsDcStruct; Internal: LsDcStruct; PowerOk: BOOL; END_STRUCT; END_TYPE;	
Type Name	FiberDistributionInStruct
Description	Structure used in the user interface to monitor the fiber distribution
Definition	STRUCT
Output Tag	Name: Error Type: ErrorStruct Description: Calls the error handler
Output Tag	Name: RfMon Type: LREAL Description: Monitors the RF power after the amp in dBm
Output	Name: RfNom Type: LREAL Description: Nom Rf power at the amp output
Output Tag	Name: External Type: LsDcStruct Description:

Output Tag	Name: Internal Type: LsDcStruct Description:
Output Tag	Name: PowerOk Type: BOOL Description: Voltage monitor readback

Function Block TYPE FiberDistributionFB: VAR_INPUT Request: SaveRestoreEnum; FiberDistributionIn: FiberDistributionInStruct; END_VAR; VAR_OUTPUT FiberDistributionOut: FiberDistributionOutStruct; END_VAR; VAR_IN_OUT FiberDistributionInit: FiberDistributionStruct; FiberDistribution: FiberDistributionStruct; END_VAR; END_TYPE;	
Type Name	FiberDistributionStructFB
Description	Function block used to monitor the fiber distribution
Definition	Function Block
Input Argument	Name: Request Type: SaveRestoreEnum Description: Request for save/restore/safe mode or noop
Input Argument	Name: FiberDistributionIn Type: FiberDistributionInStruct Description: Input structure
Output Argument	Name: FiberDistributionOut Type: FiberDistributionOutStruct Description: Output structure
In/out Argument	Name: FiberDistribution Type: FiberDistributionStruct Description: User interface structure
In/out Argument	Name: FiberDistributionInit Type: FiberDistributionStruct Description: Save/restore variable in persistent memory

