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TwinCAT Library for Summing Node

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Library	
Title	SummingNode
Version	1
TwinCAT version	V2.11.0
Name space	
Author	Daniel Sigg
Description	Information about the summing node
Error Code	16#01 — Power supply voltages out-of-range
Library Dependencies	Error, ReadADC, WriteADC, SaveRestore

User Interface Type	
TYPE SummingNodeInStruct : STRUCT In1Mon: INT; In2Mon: INT; SumMon: INT; Ok: BOOL; END_STRUCT; END_TYPE;	
Type Name	SummingNodeInStruct
Description	Input structure
Definition	STRUCT
Output Tag	Name: In1Mon Type: INT Description: Input monitor channel 1
Output Tag	Name: In2Mon Type: INT Description: Input monitor channel 2
Output Tag	Name: SumMon Type: INT Description: Sum monitor
Output Tag	Name: Ok Type: BOOL Description: Voltages are within range

User Interface Type

TYPE SummingNodeOutStruct : STRUCT Ofs: INT; In1Pol: BOOL; In2Pol: BOOL; In1En: BOOL; In2En: BOOL; In1Gain: INT; In2Gain: INT; OutSw: BOOL; Boost: BOOL; Comp: BOOL; Opt: BOOL; END_STRUCT; END_TYPE;	
Type Name	SummingNodeOutStruct
Description	Out structure
Definition	STRUCT
Input Tag	Name: Ofs Type: INT Description: Common path offset adjust
Output Tag	Name: In1Pol Type: BOOL Description: Input 1 polarity
Output Tag	Name: In2Pol Type: BOOL Description: Input 2 polarity
Output Tag	Name: In1En Type: BOOL Description: Input 1 enable
Output Tag	Name: In2En Type: BOOL Description: Input 2 enable
Output Tag	Name: In1Gain Type: INT Description: Input 1 gain
Output Tag	Name: In2Gain Type: INT Description: Input 2 gain
Output Tag	Name: OutSw Type: BOOL

	Description: Output 1 switch
Input Tag	Name: Boost Type: BOOL Description: Enable boost switch
Input Tag	Name: Comp Type: BOOL Description: Compensation enable
Input Tag	Name: Opt Type: BOOL Description: Option enable

<p>User Interface Type</p> <p>TYPE SummingNodeStruct :</p> <p>STRUCT</p> <pre> Error: ErrorStruct; In1Mon: LREAL; In2Mon: LREAL; SumMon: LREAL; Ok: BOOL; Ofs: LREAL; In1Pol: BOOL; In2Pol: BOOL; In1En: BOOL; In2En: BOOL; In1Gain: INT; In2Gain: INT; OutSw: BOOL; Boost: BOOL; Comp: BOOL; Opt: BOOL; </pre> <p>END_STRUCT;</p> <p>END_TYPE;</p>	
Type Name	SummingNodeStruct
Description	Structure used in the user interface
Definition	STRUCT
In/Out Tag	Name: Error Type: ErrorStruct Description: Calls error handler
Output Tag	Name: In1Mon

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	Type: LREAL Description: Input monitor channel 1
Output Tag	Name: In2Mon Type: LREAL Description: Input monitor channel 2
Output Tag	Name: SumMon Type: LREAL Description: Sum monitor
Output Tag	Name: Ok Type: BOOL Description: Voltages are within range
Input Tag	Name: Ofs Type: LREAL Description: Common path offset adjust
Output Tag	Name: In1Pol Type: BOOL Description: Input 1 polarity
Output Tag	Name: In2Pol Type: BOOL Description: Input 2 polarity
Output Tag	Name: In1En Type: BOOL Description: Input 1 enable
Output Tag	Name: In2En Type: BOOL Description: Input 2 enable
Output Tag	Name: In1Gain Type: INT Description: Input 1 gain
Output Tag	Name: In2Gain Type: INT Description: Input 2 gain
Output Tag	Name: OutSw Type: BOOL Description: Output 1 switch
Input Tag	Name: Boost Type: BOOL Description: Enable boost switch
Input Tag	Name: Comp Type: BOOL

	Description: Compensation enable
Input Tag	Name: Opt Type: BOOL Description: Option enable

Function Block TYPE SummingNodeFB: VAR_INPUT Request: SaveRestoreEnum; SummingNodeIn: SummingNodeInStruct; END_VAR; VAR_OUTPUT SummingNodeOut: SummingNodeOutStruct; END_VAR; VAR_IN_OUT SummingNodeInit: SummingNodeStruct; SummingNode: SummingNodeStruct; END_VAR; END_TYPE;	
Type Name	SummingNodeFB
Description	Function block used to monitor the PSL environment
Definition	Function Block
Input Argument	Name: Request Type: SaveRestoreEnum Description: Request for save/restore/safe mode or noop
Input Argument	Name: SummingNodeIn Type: SummingNodeInStruct Description: Input structure
Output Argument	Name: SummingNodeOut Type: SummingNodeOutStruct Description: Output Structure
In/out Argument	Name: SummingNodeInit Type: SummingNodeStruct Description: Save/restore variable in persistent memory
In/out Argument	Name: SummingNode Type: SummingNodeStruct Description: User interface structure