



SPS-Integration GSU14E_2520

IO-Link Servicedaten Funktionsbaustein + Prozessdatenparserfunktion für Beckhoff (TwinCAT 3.x) SPS-Systeme in Kombination mit einem EtherCAT IO-Link Master

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1 Rechtliche Hinweise

1.1 Haftungsausschluss

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Bevor Sie die Bibliothek einbinden, schließen Sie bitte alle nicht benötigten Programme um Datenverlust zu vermeiden.

Wir empfehlen Ihnen dringend, die Installation auf einem Rechner vorzunehmen, der noch nicht im Produktionsprozess eingesetzt oder zur Haltung wichtiger Daten benötigt wird. Es kann nicht völlig ausgeschlossen werden, dass vorhandene Dateien verändert oder überschrieben werden. Die Leuze electronic GmbH & Co. KG haftet nicht für Schäden und Datenverluste, die aus dieser Installation bzw. der Nichtbeachtung dieses Warnhinweises resultieren.

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2 Über dieses Dokument

Bitte lesen Sie dieses Kapitel sorgfältig, bevor Sie mit dieser Dokumentation und dem Leuze IO-Link-Gerät arbeiten.

2.1 Verwendungszweck

Diese Anleitung ist für das technische Personal zum Einsatz der IO-Link SPS-Bausteine konzipiert.

Diese Anleitung unterstützt bei der Inbetriebnahme eines Leuze Sensors mittels Standard-Software von Beckhoff. Der beschriebene Baustein ist Bestandteil dieses Standards.

2.2 Zielgruppe

Dieses Dokument richtet sich an Personen, die grundsätzliche Kenntnisse auf dem Gebiet der Automatisierungstechnik und deren Programmierung sowie der Anlage und deren Vorgänge in den jeweiligen Anlagen haben.

3 Allgemeine Verwendung von Funktionsbausteine

3.1 Kurzbeschreibung

Der Funktionsbaustein "FB_Leuze_IOL_ GSU14E_2520" vereinfacht den Einsatz von Leuze IO-Link-Geräten an Beckhoff (TwinCAT 3.x) SPS-Steuerungen. Dieser FB unterstützt IO-Link-Master, die über EtherCAT an das SPS-System angeschlossen werden können.

Der Funktionsbaustein ist gerätetypspezifisch und somit nur für die entsprechenden Leuze IO-Link-Geräte geeignet. Der FB interpretiert den Aufruf der azyklischen Servicedaten zwischen der SPS und dem IO-Link-Gerät.

Der IO-Link-Funktionsbaustein kann nur in Kombination mit den aufgeführten Hilfsfunktionen / Bibliotheken verwendet werden.

3.2 Aufruf und Bezeichnung

Der Baustein kann als Einzelinstanz aufgerufen werden.



Bild 3.1: Beispiel Bausteinaufruf mit Einzelinstanz

3.3 Konfiguration

Tabelle 3.1: Parameter IN

| Parameter | Datentyp | Beschreibung |
|-----------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bExecute | Bool | Positiver Auslöser: Datenübetragung starten |
| bRW | Bool | Lesen oder Schreiben des ausgewählten IO-Link-Parameters. FALSE: Parameter lesen TRUE: Parameter schreiben |
| nPort | T_AmsPort | Port-Nummer des ADS-Geräts. |
| sNetId | T_AmsNetID | Zeichenfolge, die die AMS-Netzwerkennung des Zielgeräts enthält, an das der ADS-Befehl gerichtet ist. Beckhoff EL6224/EP6224: AoeNetId des IO-Link-Masters |
| nIdxGroup | UDInt | Index-Gruppennummer. |
| tTimeOut | Time | Zeit, nachdem ein Timeout-Fehler ausgelöst wurde. |

Tabelle 3.2: Parameter INOUT

| Parameter | Datentyp | Beschreibung |
|--------------|---------------------------|--------------|
| stDeviceData | ST_Leuze_IOL_ GSU14E_2520 | Sensor-Daten |

Siehe Datenstrukturbeschreibung von ST_Leuze_IOL_ GSU14E_2520 in Kapitel 7.

Tabelle 3.3: Parameter OUT

| Parameter | Datentyp | Beschreibung |
|-------------|--------------------|-----------------------------------------------------------------------------------------|
| bDone | Bool | Zeigt an, ob die Daten gültig sind. |
| bBusy | Bool | Anfrage in Bearbeitung. FALSE: Anfrage wird beendet TRUE: Anfrage wird bearbeitet |
| bError | Bool | Fehler-Flag FALSE: Kein Fehler TRUE: Fehler festgestellt |
| stErrorCode | ST_Leuze_IOL_Error | Status des Funktionsbausteins |

Siehe Datenstrukturbeschreibung von ST_Leuze_IOL_Error in Kapitel 6.

3.4 Funktionsweise

Der Funktionsbaustein verwendet die Datenstruktur "ST_Leuze_IOL_GSU14E_2520". Die SPS-Datenstruktur enthält die Werte aller IO-Link-Variablen. Bevor Sie diese verwenden können, muss die Struktur durch einen Datenbaustein instanziiert werden. Jeder IO-Link-FB-Parameter hat einen Datenpunkt, der ihn in dieser Datenstruktur repräsentiert. Dieser Datenpunkt wird immer dann aktualisiert, wenn ein Leseauftrag erfolgreich ausgeführt wurde.

Über die Eingangsvariablen können die gewünschten Parameter ausgewählt werden. Je nach Gerätedefinition sind die IO-Link-Parameter lesbar oder schreibbar. Zum Lesen von Parametern muss die Eingangsvariable "bRW" = FALSE sein. Der Wert, der geschrieben werden soll, kann in der Datenstruktur definiert werden, sobald die Eingangsvariable "bRW" = TRUE ist. Sie starten jede Übertragung durch Aufruf des "FB_Leuze_IOL_GSU14E_2520" mit einem positiven Trigger am Eingang "bExecute". Solange es keine gültige Antwort gibt, ist der Ausgang "bBusy" = TRUE. Für den Fall, dass die gewählte Timeout-Zeit abgelaufen ist, wird ein Timeout-Fehler generiert und der Thread wird abgebrochen. Der Ausgang "bDone" = TRUE zeigt an, dass die Übertragung erfolgreich war. Die Ausgänge behalten ihre Zustände bei, solange nicht wieder ein neuer positiver Trigger am Eingang "bExecute" erfolgt.

Der Funktionsbaustein ermöglicht es Ihnen, mehrere IO-Link-Parameter nacheinander zu lesen oder zu schreiben (Multiselektion). Bitte beachten Sie, dass es vorkommen kann, dass ein einzelner Parameter nicht geschrieben werden kann. Der Funktionsbaustein bricht an dieser Stelle ab und es ist möglich, dass das IO-Link-Gerät einen inkonsistenten Parametersatz enthält.

3.5 Verhalten bei Auftreten eines Fehlers

Es wird ein Fehlerbit (bError) gesetzt und ein Fehlercode (ST_Leuze_IOL_Error) generiert, wenn ein fehlerhafter Eingangswert oder ein falscher Eingangsanschluss des FBs vorliegt. In diesem Fall wird keine weitere Verarbeitung durchgeführt, bis der Eingang korrigiert wurde.

4 Integration in das SPS-Projekt

Der Funktionsbaustein "FB_Leuze_IOL_GSU14E_2520" ist ein Teil der TwinCAT V3.x Bibliothek. Die Bibliothek kann durch das Bibliotheksverzeichnis installiert werden. Anschließend kann die Bibliothek zu Ihrem Projekt hinzugefügt werden (Referenzen --> Bibliothek hinzufügen...).

Integration Schritt für Schritt:

- Herunterladen der Bibliothek
- Öffnen Sie das Bibliotheksverzeichnis im Register Bibliotheks-Manager in Beckhoff TwinCAT
- Klicken Sie auf Installieren... und wählen Sie die heruntergeladene Bibliothek aus
- Öffnen Sie Bibliothek hinzufügen im Register Bibliotheks-Manager.
- Installierte Bibliothek finden Sie unter Leuze electronic GmbH + Co. KG

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|  | Wenn sich mehrere Geräte mit dem IO-Link-Master verbinden, können Sie nur mit einem Gerät gleichzeitig azyklische Daten (Servicedaten) austauschen. Aufgrund dieser Einschränkung müssen die Kommunikationsblöcke der Servicedaten untereinander gesperrt werden. |

5 Prozessdaten-Parser-Funktion

Die Funktion F_Leuze_PD_GSU14E_2520 vereinfacht die Interpretation von zusammengesetzten IO-Link-Prozessdaten. Diese Daten werden als Datenstruktur auf der SPS-Seite bereitgestellt.

Die Funktion ist gerätetypspezifisch und daher nur für die entsprechenden Leuze IO-Link Geräte geeignet.

5.1 Aufruf und Bezeichnung



Bild 5.1: Beispiel für einen Funktionsaufruf zum Parsen von Prozessdaten

5.2 Konfiguration

Tabelle 5.1: Parameter

| Parametername | Bezeichnung | Datentyp | Beschreibung |
|------------------------|-------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| aProcessData | INPUT | ARRAY OF BYTE | Roh-Prozessdaten des IO-Link-Geräts.. |
| bError | OUTPUT | BOOL | Fehler-Flag FALSE: Kein Fehler TRUE: Fehler festgestellt |
| F_Leuze_PD_GSU14E_2520 | OUTPUT | ST_Leuze_PD_GSU14E_2520 | Referenz auf die Instanz der Datenstruktur ST_Leuze_PD_GSU14E_2520. Die Struktur enthält die disaggregierten Werte der Prozessdaten. |

Siehe Datenstrukturbeschreibung von ST_Leuze_PD_GSU14E_2520 in Kapitel 7.

6 Fehlerbeschreibung

Der Parameter "ErrorCode" kann über den SPS-Datentyp ST_Leuze_IOL_Error interpretiert werden. Dieser Datentyp enthält die folgenden Fehlerinformationen:

Tabelle 6.1: Beschreibungen der ST_Leuze_IOL_Error

| Parametername | Datentyp | Beschreibung |
|----------------------------|----------|----------------------------------------------------------------------------|
| ErrorStatus.nBlockError | WORD | Fehlernummer, die den FB repräsentiert, bei dem der Fehler aufgetreten ist |
| ErrorStatus.nAdsReadError | UDINT | ADS-Lese-Fehlercode |
| ErrorStatus.nAdsWriteError | UDINT | ADS-Schreib-Fehlercode |
| ErrorStatus.nIndex | INT | IO-Link-Index, auf den sich der Fehlercode bezieht |
| ErrorStatus.nSubIndex | INT | IO-Link-Subindex, auf den sich der Fehlercode bezieht |

Tabelle 6.2: Fehlerbeschreibung für nBlockError

| Fehlercode (nBlockError) | Fehlerbeschreibung |
|--------------------------|-------------------------------------------|
| 0x0000 | Kein Fehler |
| 0x8002 | Kein Parameter ausgewählt |
| 0x8003 | Fehler in FB_Leuze_IOL_AdsReadWrite block |

Weitere Informationen finden Sie in der Spezifikation Beckhoff ADS Return Codes (<https://infosys.beckhoff.com>).

7 Datenstrukturen

Tabelle 7.1: ST_Leuze_IOL_GSU14E_2520

| Parametername | Datentyp | Beschreibung |
|-----------------------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stCommands.bDeviceReset | BOOL | [WRITE_ONLY] Gerät rücksetzen |
| stDeviceData.stSelection.stCommands.bApplicationReset | BOOL | [WRITE_ONLY] Anwendung rücksetzen |
| stDeviceData.stSelection.stCommands.bRestoreFactorySettings | BOOL | [WRITE_ONLY] Auslieferungszustand wiederherstellen |
| stDeviceData.stSelection.stCommands.bTeachSp1Start | BOOL | [WRITE_ONLY] Teach SP1 Start |
| stDeviceData.stSelection.stCommands.bTeachSp1Stop | BOOL | [WRITE_ONLY] Teach SP1 Stop |
| stDeviceData.stSelection.stCommands.bAbortTeach | BOOL | [WRITE_ONLY] Abort Teach |
| stDeviceData.stSelection.stCommands.bEasytuneDown | BOOL | [WRITE_ONLY] easyTune Down |
| stDeviceData.stSelection.stCommands.bEasytuneUp | BOOL | [WRITE_ONLY] easyTune Up |
| stDeviceData.stSelection.stCommands.bClearError | BOOL | [WRITE_ONLY] Clear Error |
| stDeviceData.stSelection.stCommands.bSaveWorkIndex | BOOL | [WRITE_ONLY] Save Work Index |
| stDeviceData.stSelection.stCommands.bLoadWorkIndex | BOOL | [WRITE_ONLY] Load Work Index |
| stDeviceData.stSelection.stDirectParameters1.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDirectParameters1.bReserved_1 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bMasterCycleTime | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bMinCycleTime | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bMSequenceCapability | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bIoLinkVersionId | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bProcessDataInputLength | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bProcessDataOutputLength | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bVendorId1 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bVendorId2 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bDeviceId1 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bDeviceId2 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bDeviceId3 | BOOL | [READ_ONLY] |

| Parametername | Datentyp | Beschreibung |
|-------------------------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDirectParameters1.bReserved_13 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bReserved_14 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters1.bReserved_15 | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDirectParameters2.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter1 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter2 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter4 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter6 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter8 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter10 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter11 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter12 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter13 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter14 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter15 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDirectParameters2.bDeviceSpecificParameter16 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.bStandardCommand | BOOL | [WRITE_ONLY] |
| stDeviceData.stSelection.stDeviceAccessLocks.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stProfileCharacteristic.bAll | BOOL | [READ_ONLY] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.bVendorName | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bVendorText | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bProductName | BOOL | [READ_ONLY] |

| Parametername | Datentyp | Beschreibung |
|---------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------|
| stDeviceData.stSelection.bProductId | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bProductText | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bSerialNumber | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bHardwareVersion | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bFirmwareVersion | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.bApplicationSpecificTag | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.bFunctionTag | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.bLocationTag | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.bDeviceStatus | BOOL | [READ_ONLY] |
| stDeviceData.stSelection.stDetailedDeviceStatus.bAll | BOOL | [READ_ONLY] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.bSscParamSp | BOOL | [READ_WRITE] sensitivity or setpoint values for switching signal channel |
| stDeviceData.stSelection.bSscConfigLogic | BOOL | [READ_WRITE] defines the logical behaviour of the switching signal and derived output signal |
| stDeviceData.stSelection.stTiErgebnis.bAll | BOOL | [READ_ONLY] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stSystem.bAll | BOOL | [READ_ONLY] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.bAmplitude | BOOL | [READ_ONLY] Actual Amplitude |
| stDeviceData.stSelection.bThreshold | BOOL | [READ_ONLY] Threshold |
| stDeviceData.stSelection.bWorkingParameterLoadSaveIndex | BOOL | [READ_WRITE] Working Parameter load / save index |
| stDeviceData.stSelection.stWorkingParameter.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stWorkingParameter.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bReserved_7 | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|-------------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stWorkingParameter.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stWorkingParameter.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset0.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset0.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset1.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset1.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset2.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bReserved_3 | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|-------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDataset2.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset2.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset3.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset3.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset4.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset4.bReserved_9 | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|-------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDataset5.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset5.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset5.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset6.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset6.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset7.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bReserved_5 | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDataset7.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset7.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset8.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset8.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset9.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset9.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset10.bActiveMeasMethod | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDataset10.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset10.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset11.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset11.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset12.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset12.bTeachParameter | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDataset12.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset13.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset13.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset14.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset14.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset15.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bHysteresis | BOOL | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.stDataset15.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset15.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset16.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset16.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset17.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset17.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|------------------------------------------------------------------|
| stDeviceData.stSelection.stDataset18.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset18.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bAll | BOOL | [READ_WRITE] alle Parameter des komplexen Datentyps |
| stDeviceData.stSelection.stDataset19.bActiveMeasMethod | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bThreshold | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bReserved_3 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bHysteresis | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bReserved_5 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bGain | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bReserved_7 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bTeachParameter | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.stDataset19.bReserved_9 | BOOL | [READ_WRITE] |
| stDeviceData.stSelection.bAnalysisDepth | BOOL | [READ_WRITE] Number of scans considered for switching the output |
| stDeviceData.stSelection.bTimerUnit | BOOL | [READ_WRITE] Timer Unit |
| stDeviceData.stSelection.bFunctionOfTimerUnit | BOOL | [READ_WRITE] Function of Timer Unit |
| stDeviceData.stSelection.bTime_194 | BOOL | [READ_WRITE] Time |
| stDeviceData.stSelection.bNumberOfObjects | BOOL | [READ_WRITE] Internal Object Counter |
| stDeviceData.stSelection.bWireFunctionLevel1 | BOOL | [READ_WRITE] Wire function level 1: 20 - 80 ms |
| stDeviceData.stSelection.bWireFunctionLevel2 | BOOL | [READ_WRITE] Wire function level 2: 120 - 180 ms |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|-----------------------------------------------------|
| stDeviceData.stSelection.bWireFunctionLevel3 | BOOL | [READ_WRITE] Wire function level 3: 220 - 280 ms |
| stDeviceData.stSelection.bWireFunctionLevel4 | BOOL | [READ_WRITE] Wire function level 4: 320 - 380 ms |
| stDeviceData.stSelection.bWireFunctionLevel5 | BOOL | [READ_WRITE] Wire function level 5: 420 - 480 ms |
| stDeviceData.stSelection.bWireFunctionLevel6 | BOOL | [READ_WRITE] Wire function level 6: 520 - 580 ms |
| stDeviceData.stSelection.bWireFunctionLevel7 | BOOL | [READ_WRITE] Wire function level 7: 620 - 680 ms |
| stDeviceData.stSelection.bWireFunctionLevel8 | BOOL | [READ_WRITE] Wire function level 8: 720 - 780 ms |
| stDeviceData.stSelection.bWireFunctionLevel9 | BOOL | [READ_WRITE] Wire function level 9: 820 - 880 ms |
| stDeviceData.stSelection.bWireFunctionLevel10 | BOOL | [READ_WRITE] Wire function level 10: 920 - 980 ms |
| stDeviceData.stSelection.bWireFunctionLevel11 | BOOL | [READ_WRITE] Wire function level 11: 1020 - 1080 ms |
| stDeviceData.stSelection.bWireFunctionLevel12 | BOOL | [READ_WRITE] Wire function level 12: 1120 - 1180 ms |
| stDeviceData.stSelection.bTemperature | BOOL | [READ_ONLY] Temperature |
| stDeviceData.stSelection.bMinusButtonEasytuneDisable | BOOL | [READ_WRITE] Minus button easyTune disable |
| stDeviceData.stSelection.bTeachButtonEasytuneDisable | BOOL | [READ_WRITE] Teach button easyTune disable |
| stDeviceData.stSelection.bMinusButtonFunctionLevel1 | BOOL | [READ_WRITE] Minus button function level 1 |
| stDeviceData.stSelection.bMinusButtonFunctionLevel2 | BOOL | [READ_WRITE] Minus button function level 2 |
| stDeviceData.stSelection.bMinusButtonFunctionLevel3 | BOOL | [READ_WRITE] Minus button function level 3 |
| stDeviceData.stSelection.bTeachButtonFunctionLevel1 | BOOL | [READ_WRITE] Teach button function level 1 |
| stDeviceData.stSelection.bTeachButtonFunctionLevel2 | BOOL | [READ_WRITE] Teach button function level 2 |
| stDeviceData.stSelection.bTeachButtonFunctionLevel3 | BOOL | [READ_WRITE] Teach button function level 3 |
| stDeviceData.stSelection.bPin4Function | BOOL | [READ_WRITE] Pin 4 function |
| stDeviceData.stSelection.bPin2Function | BOOL | [READ_WRITE] Pin 2 function |
| stDeviceData.stData.stCommands.nDeviceReset | UINT | [WRITE_ONLY] Gerät rücksetzen |
| stDeviceData.stData.stCommands.nApplicationReset | UINT | [WRITE_ONLY] Anwendung rücksetzen |
| stDeviceData.stData.stCommands.nRestoreFactorySettings | UINT | [WRITE_ONLY] Auslieferungszustand wiederherstellen |

| Parametername | Datentyp | Beschreibung |
|-------------------------------------------------------------------|----------|------------------------------|
| stDeviceData.stData.stCommands.nTeachSp1Start | UINT | [WRITE_ONLY] Teach SP1 Start |
| stDeviceData.stData.stCommands.nTeachSp1Stop | UINT | [WRITE_ONLY] Teach SP1 Stop |
| stDeviceData.stData.stCommands.nAbortTeach | UINT | [WRITE_ONLY] Abort Teach |
| stDeviceData.stData.stCommands.nEasytuneDown | UINT | [WRITE_ONLY] easyTune Down |
| stDeviceData.stData.stCommands.nEasytuneUp | UINT | [WRITE_ONLY] easyTune Up |
| stDeviceData.stData.stCommands.nClearError | UINT | [WRITE_ONLY] Clear Error |
| stDeviceData.stData.stCommands.nSaveWorkIndex | UINT | [WRITE_ONLY] Save Work Index |
| stDeviceData.stData.stCommands.nLoadWorkIndex | UINT | [WRITE_ONLY] Load Work Index |
| stDeviceData.stData.stDirectParameters1.nReserved_1 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nMasterCycleTime | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nMinCycleTime | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nMSequenceCapability | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nIoLinkVersionId | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nProcessDataInputLength | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nProcessDataOutputLength | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nVendorId1 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nVendorId2 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nDeviceId1 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nDeviceId2 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nDeviceId3 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nReserved_13 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nReserved_14 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters1.nReserved_15 | UINT | [READ_ONLY] |
| stDeviceData.stData.stDirectParameters2.nDeviceSpecificParameter1 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2.nDeviceSpecificParameter2 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2.nDeviceSpecificParameter3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2.nDeviceSpecificParameter4 | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------|
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter6 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter8 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter10 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter11 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter12 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter13 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter14 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter15 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDirectParameters2. nDeviceSpecificParameter16 | UINT | [READ_WRITE] |
| stDeviceData.stData.nStandardCommand | UINT | [WRITE_ONLY] |
| stDeviceData.stData.stDeviceAccessLocks. bParameterWriteAccessLock | BOOL | [READ_WRITE] |
| stDeviceData.stData.stDeviceAccessLocks.bDataStorageLock | BOOL | [READ_WRITE] |
| stDeviceData.stData.stDeviceAccessLocks. bLocalParameterizationLock | BOOL | [READ_WRITE] |
| stDeviceData.stData.stDeviceAccessLocks. bLocalUserInterfaceLock | BOOL | [READ_WRITE] |
| stDeviceData.stData.stProfileCharacteristic.nDeviceProfile1 | UINT | [READ_ONLY] 0x0007: Adjustable Switching Sensor, Single Value Teach, Disable Function |
| stDeviceData.stData.stProfileCharacteristic.nApplicationProfile | UINT | [READ_ONLY] 0x4000: Identification and Diagnosis |
| stDeviceData.stData.stProfileCharacteristic.nFunctionClass1 | UINT | [READ_ONLY] 0x8009: Teach-in dynamic |
| stDeviceData.stData.sVendorName | STRING | [READ_ONLY] |
| stDeviceData.stData.sVendorText | STRING | [READ_ONLY] |
| stDeviceData.stData.sProductName | STRING | [READ_ONLY] |
| stDeviceData.stData.sProductId | STRING | [READ_ONLY] |
| stDeviceData.stData.sProductText | STRING | [READ_ONLY] |
| stDeviceData.stData.sSerialNumber | STRING | [READ_ONLY] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------------|----------|----------------------------------------------------------------------------------------------|
| stDeviceData.stData.sHardwareVersion | STRING | [READ_ONLY] |
| stDeviceData.stData.sFirmwareVersion | STRING | [READ_ONLY] |
| stDeviceData.stData.sApplicationSpecificTag | STRING | [READ_WRITE] |
| stDeviceData.stData.sFunctionTag | STRING | [READ_WRITE] |
| stDeviceData.stData.sLocationTag | STRING | [READ_WRITE] |
| stDeviceData.stData.nDeviceStatus | UINT | [READ_ONLY] |
| stDeviceData.stData.stDetailedDeviceStatus.sltem_1 | STRING | [READ_ONLY] |
| stDeviceData.stData.stDetailedDeviceStatus.sltem_2 | STRING | [READ_ONLY] |
| stDeviceData.stData.nSscParamSp | UINT | [READ_WRITE] sensitivity or setpoint values for switching signal channel |
| stDeviceData.stData.nSscConfigLogic | UINT | [READ_WRITE] defines the logical behaviour of the switching signal and derived output signal |
| stDeviceData.stData.stTiErgebnis.nTiResultState | UINT | [READ_ONLY] |
| stDeviceData.stData.stTiErgebnis.bTiResultFlagSp1Tp1 | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bSsc1 | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bMeasurementAndEvaluation | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bMeasuredValue | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bWarning | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bTeachTerminateFlag | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.nActiveMethod | UINT | [READ_ONLY] |
| stDeviceData.stData.stSystem.bCalibration | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bButton | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bDeviceOperation | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bTeach | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bEasyTune | BOOL | [READ_ONLY] |
| stDeviceData.stData.stSystem.bTemperature | BOOL | [READ_ONLY] |
| stDeviceData.stData.nAmplitude | UINT | [READ_ONLY] Actual Amplitude |
| stDeviceData.stData.nThreshold | UINT | [READ_ONLY] Threshold |

| Parametername | Datentyp | Beschreibung |
|----------------------------------------------------------|----------|--------------------------------------------------|
| stDeviceData.stData.nWorkingParameterLoadSaveIndex | UINT | [READ_WRITE] Working Parameter load / save index |
| stDeviceData.stData.stWorkingParameter.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stWorkingParameter.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset0.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset1.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------|----------|--------------|
| stDeviceData.stData.stDataset1.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset2.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset3.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset4.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|--------------------------------------------------|----------|--------------|
| stDeviceData.stData.stDataset4.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset5.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset6.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset7.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|---------------------------------------------------|----------|--------------|
| stDeviceData.stData.stDataset7.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset8.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset9.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset10.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|---------------------------------------------------|----------|--------------|
| stDeviceData.stData.stDataset10.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset11.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset12.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset13.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|---------------------------------------------------|----------|--------------|
| stDeviceData.stData.stDataset13.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset14.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset15.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset16.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|---------------------------------------------------|----------|--------------|
| stDeviceData.stData.stDataset16.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset17.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nTeachParameter | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset18.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nActiveMeasMethod | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nThreshold | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nReserved_3 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nHysteresis | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nReserved_5 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nGain | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nReserved_7 | UINT | [READ_WRITE] |
| stDeviceData.stData.stDataset19.nTeachParameter | UINT | [READ_WRITE] |

| Parametername | Datentyp | Beschreibung |
|-------------------------------------------------|----------|------------------------------------------------------------------|
| stDeviceData.stData.stDataset19.nReserved_9 | UINT | [READ_WRITE] |
| stDeviceData.stData.nAnalysisDepth | INT | [READ_WRITE] Number of scans considered for switching the output |
| stDeviceData.stData.nTimerUnit | UINT | [READ_WRITE] Timer Unit |
| stDeviceData.stData.nFunctionOfTimerUnit | UINT | [READ_WRITE] Function of Timer Unit |
| stDeviceData.stData.nTime_194 | UINT | [READ_WRITE] Time |
| stDeviceData.stData.nNumberOfObjects | UINT | [READ_WRITE] Internal Object Counter |
| stDeviceData.stData.nWireFunctionLevel1 | UINT | [READ_WRITE] Wire function level 1: 20 - 80 ms |
| stDeviceData.stData.nWireFunctionLevel2 | UINT | [READ_WRITE] Wire function level 2: 120 - 180 ms |
| stDeviceData.stData.nWireFunctionLevel3 | UINT | [READ_WRITE] Wire function level 3: 220 - 280 ms |
| stDeviceData.stData.nWireFunctionLevel4 | UINT | [READ_WRITE] Wire function level 4: 320 - 380 ms |
| stDeviceData.stData.nWireFunctionLevel5 | UINT | [READ_WRITE] Wire function level 5: 420 - 480 ms |
| stDeviceData.stData.nWireFunctionLevel6 | UINT | [READ_WRITE] Wire function level 6: 520 - 580 ms |
| stDeviceData.stData.nWireFunctionLevel7 | UINT | [READ_WRITE] Wire function level 7: 620 - 680 ms |
| stDeviceData.stData.nWireFunctionLevel8 | UINT | [READ_WRITE] Wire function level 8: 720 - 780 ms |
| stDeviceData.stData.nWireFunctionLevel9 | UINT | [READ_WRITE] Wire function level 9: 820 - 880 ms |
| stDeviceData.stData.nWireFunctionLevel10 | UINT | [READ_WRITE] Wire function level 10: 920 - 980 ms |
| stDeviceData.stData.nWireFunctionLevel11 | UINT | [READ_WRITE] Wire function level 11: 1020 - 1080 ms |
| stDeviceData.stData.nWireFunctionLevel12 | UINT | [READ_WRITE] Wire function level 12: 1120 - 1180 ms |
| stDeviceData.stData.nTemperature | INT | [READ_ONLY] Temperature |
| stDeviceData.stData.nMinusButtonEasytuneDisable | UINT | [READ_WRITE] Minus button easyTune disable |
| stDeviceData.stData.nTeachButtonEasytuneDisable | UINT | [READ_WRITE] Teach button easyTune disable |
| stDeviceData.stData.nMinusButtonFunctionLevel1 | INT | [READ_WRITE] Minus button function level 1 |
| stDeviceData.stData.nMinusButtonFunctionLevel2 | INT | [READ_WRITE] Minus button function level 2 |

| Parametername | Datentyp | Beschreibung |
|------------------------------------------------|----------|--------------------------------------------|
| stDeviceData.stData.nMinusButtonFunctionLevel3 | INT | [READ_WRITE] Minus button function level 3 |
| stDeviceData.stData.nTeachButtonFunctionLevel1 | INT | [READ_WRITE] Teach button function level 1 |
| stDeviceData.stData.nTeachButtonFunctionLevel2 | INT | [READ_WRITE] Teach button function level 2 |
| stDeviceData.stData.nTeachButtonFunctionLevel3 | INT | [READ_WRITE] Teach button function level 3 |
| stDeviceData.stData.nPin4Function | UINT | [READ_WRITE] Pin 4 function |
| stDeviceData.stData.nPin2Function | UINT | [READ_WRITE] Pin 2 function |

Tabelle 7.2: ST_Leuze_PD_GSU14E_2520

| Parametername | Datentyp | Beschreibung |
|---------------------------------------------------|----------|--------------|
| ST_Leuze_PD_GSU14E_2520.bSsc1 | BOOL | |
| ST_Leuze_PD_GSU14E_2520.bMeasurementAndEvaluation | BOOL | |
| ST_Leuze_PD_GSU14E_2520.bMeasuredValue | BOOL | |
| ST_Leuze_PD_GSU14E_2520.bWarning | BOOL | |
| ST_Leuze_PD_GSU14E_2520.bTeachTerminateFlag | BOOL | |

8 Parameterbeschreibungen

Tabelle 8.1: Beschreibungen der IODD-Parameter

(AR - Zugangsrechte, R - Nur lesen, W - Nur schreiben, RW - Lesen und Schreiben, NS - Unbestimmt)

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|----------------------------|-------|----------|-----------|---------|----|---------------------------------------|
| Commands | | | RecordT | | W | |
| Device Reset | | | UIntegerT | 128 | W | Gerät rücksetzen |
| Application Reset | | | UIntegerT | 129 | W | Anwendung rücksetzen |
| Restore Factory Settings | | | UIntegerT | 130 | W | Auslieferungszustand wiederherstellen |
| Teach SP1 Start | | | UIntegerT | 71 | W | Teach SP1 Start |
| Teach SP1 Stop | | | UIntegerT | 72 | W | Teach SP1 Stop |
| Abort Teach | | | UIntegerT | 79 | W | Abort Teach |
| easyTune Down | | | UIntegerT | 192 | W | easyTune Down |
| easyTune Up | | | UIntegerT | 193 | W | easyTune Up |
| Clear Error | | | UIntegerT | 200 | W | Clear Error |
| Save Work Index | | | UIntegerT | 226 | W | Save Work Index |
| Load Work Index | | | UIntegerT | 227 | W | Load Work Index |
| Direct Parameters 1 | 0 | 0 | RecordT | | RW | |
| Reserved | 0 | 1 | UIntegerT | | R | |
| Master Cycle Time | 0 | 2 | UIntegerT | | R | |
| Min Cycle Time | 0 | 3 | UIntegerT | | R | |
| M-Sequence Capability | 0 | 4 | UIntegerT | | R | |
| IO-Link Version ID | 0 | 5 | UIntegerT | 17 | R | |
| Process Data Input Length | 0 | 6 | UIntegerT | | R | |
| Process Data Output Length | 0 | 7 | UIntegerT | | R | |
| Vendor ID 1 | 0 | 8 | UIntegerT | | R | |
| Vendor ID 2 | 0 | 9 | UIntegerT | | R | |
| Device ID 1 | 0 | 10 | UIntegerT | | R | |
| Device ID 2 | 0 | 11 | UIntegerT | | R | |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|---------------------------------|-------|----------|-----------|---------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device ID 3 | 0 | 12 | UIntegerT | | R | |
| Reserved | 0 | 13 | UIntegerT | | R | |
| Reserved | 0 | 14 | UIntegerT | | R | |
| Reserved | 0 | 15 | UIntegerT | | R | |
| Standard Command | 0 | 16 | UIntegerT | | W | (0 ... 63): Reserviert 128: Gerät rücksetzen 129: Anwendung rücksetzen 130: Auslieferungszustand wiederherstellen (131 ... 159): Reserviert |
| Direct Parameters 2 | 1 | 0 | RecordT | | RW | |
| Device Specific Parameter 1 | 1 | 1 | UIntegerT | | RW | |
| Device Specific Parameter 2 | 1 | 2 | UIntegerT | | RW | |
| Device Specific Parameter 3 | 1 | 3 | UIntegerT | | RW | |
| Device Specific Parameter 4 | 1 | 4 | UIntegerT | | RW | |
| Device Specific Parameter 5 | 1 | 5 | UIntegerT | | RW | |
| Device Specific Parameter 6 | 1 | 6 | UIntegerT | | RW | |
| Device Specific Parameter 7 | 1 | 7 | UIntegerT | | RW | |
| Device Specific Parameter 8 | 1 | 8 | UIntegerT | | RW | |
| Device Specific Parameter 9 | 1 | 9 | UIntegerT | | RW | |
| Device Specific Parameter 10 | 1 | 10 | UIntegerT | | RW | |
| Device Specific Parameter 11 | 1 | 11 | UIntegerT | | RW | |
| Device Specific Parameter 12 | 1 | 12 | UIntegerT | | RW | |
| Device Specific Parameter 13 | 1 | 13 | UIntegerT | | RW | |
| Device Specific Parameter 14 | 1 | 14 | UIntegerT | | RW | |
| Device Specific Parameter 15 | 1 | 15 | UIntegerT | | RW | |
| Device Specific Parameter 16 | 1 | 16 | UIntegerT | | RW | |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|-------------------------------|-------|----------|-----------|--------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard Command | 2 | 0 | UIntegerT | | W | (0 ... 63): Reserviert 128: Gerät rücksetzen 129: Anwendung rücksetzen 130: Auslieferungszustand wiederherstellen (131 ... 159): Reserviert 71: Teach SP1 Start 72: Teach SP1 Stop 79: Abort Teach 192: easyTune Down 193: easyTune Up 200: Clear Error 226: Save Work Index 227: Load Work Index |
| Device Access Locks | 12 | 0 | RecordT | | RW | |
| Parameter (write) Access Lock | 12 | 1 | BooleanT | | RW | |
| Data Storage Lock | 12 | 2 | BooleanT | | RW | |
| Local Parameterization Lock | 12 | 3 | BooleanT | | RW | |
| Local User Interface Lock | 12 | 4 | BooleanT | | RW | |
| Profile Characteristic | 13 | 0 | RecordT | | R | Collection of Profile Identifiers |
| Device Profile 1 | 13 | 1 | UIntegerT | 7 | R | 0x0007: Adjustable Switching Sensor, Single Value Teach, Disable Function 7: 0x0007: Adjustable Switching Sensor, Single Value Teach, Disable Function (SSP 2.4) 9: 0x0009: Adjustable Switching Sensor, dynamic Teach, Disable Function (SSP 2.6) 16384: 0x4000: Identification and Diagnosis |
| Application Profile | 13 | 2 | UIntegerT | 9 | R | 0x4000: Identification and Diagnosis 7: 0x0007: Adjustable Switching Sensor, Single Value Teach, Disable Function (SSP 2.4) 9: 0x0009: Adjustable Switching Sensor, dynamic Teach, Disable Function (SSP 2.6) 16384: 0x4000: Identification and Diagnosis |
| Function Class 1 | 13 | 3 | UIntegerT | 16384 | R | 0x8009: Teach-in dynamic 7: 0x0007: Adjustable Switching Sensor, Single Value Teach, Disable Function (SSP 2.4) 9: 0x0009: Adjustable Switching Sensor, dynamic Teach, Disable Function (SSP 2.6) 16384: 0x4000: Identification and Diagnosis |
| Vendor Name | 16 | 0 | StringT | Leuze electronic GmbH + Co. KG | R | |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|----------------------------|-------|----------|--------------|--------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Vendor Text | 17 | 0 | StringT | Leuze electronic - the sensor people | R | |
| Product Name | 18 | 0 | StringT | | R | |
| Product ID | 19 | 0 | StringT | | R | |
| Product Text | 20 | 0 | StringT | Label Sensor | R | |
| Serial Number | 21 | 0 | StringT | | R | |
| Hardware Version | 22 | 0 | StringT | | R | |
| Firmware Version | 23 | 0 | StringT | | R | |
| Application Specific Tag | 24 | 0 | StringT | *** | RW | |
| Function Tag | 25 | 0 | StringT | *** | RW | |
| Location Tag | 26 | 0 | StringT | *** | RW | |
| Device Status | 36 | 0 | UIntegerT | | R | 0: Gerät ist OK 1: Wartung erforderlich 2: Außerhalb der Spezifikation 3: Funktionsprüfung 4: Fehler (5 ... 255): Reserviert |
| Detailed Device Status | 37 | 0 | ArrayT | | R | |
| | 37 | 0 | OctetStringT | | R | |
| SSC Param - SP | 56 | 0 | UIntegerT | | RW | sensitivity or setpoint values for switching signal channel |
| SSC Config - Logic | 57 | 0 | UIntegerT | 0 | RW | defines the logical behaviour of the switching signal and derived output signal 0: High active - Not Inverted 1: Low active - Inverted |
| TI Ergebnis | 59 | 0 | RecordT | | R | Teach-In Result (Teachstatus und erfolgsanzeigende Flags) |
| TI Result - State | 59 | 1 | UIntegerT | | R | 0: Idle. No Teach since power-on 1: Teach of SP1 succeeded 4: Teach waiting for a command 5: Busy. Teach is running 7: Teach Error |
| TI Result - Flag SP1 TP1 | 59 | 2 | BooleanT | | R | False: No teach of SP1 TP1 since power-on or teach error True: Teach of SP1 TP1 was successful |
| System | 80 | 0 | RecordT | | R | System State |
| SSC1 | 80 | 1 | BooleanT | | R | False: SSC1 low True: SSC1 high |
| Measurement and evaluation | 80 | 2 | BooleanT | | R | False: Teach, deactivation or run-up in progress True: Measurement/evaluation in progress |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|-------------------------------------|-------|----------|-----------|---------|----|----------------------------------------------------------------------------|
| Measured value | 80 | 3 | BooleanT | | R | False: NO measured value available True: valid measured value available |
| Warning | 80 | 4 | BooleanT | | R | False: NO Warning True: Warning |
| Teach terminate flag | 80 | 5 | BooleanT | | R | False: Teach running or not started True: Teach terminated |
| Active Method | 80 | 7 | UIntegerT | | R | 0: none 1: Ultrasonic |
| Calibration | 80 | 8 | BooleanT | | R | False: Calibration ERROR True: Calibration ok |
| Button | 80 | 9 | BooleanT | | R | False: Button unlocked True: Button locked |
| Device Operation | 80 | 10 | BooleanT | | R | False: Normal operation True: Transducer disable - Emitter off |
| Teach | 80 | 14 | BooleanT | | R | False: NO error True: Error has occurred |
| easyTune | 80 | 15 | BooleanT | | R | False: ok True: limit reached |
| Temperature | 80 | 17 | BooleanT | | R | False: Safe operation True: Temperature above specified limit |
| Amplitude | 81 | 0 | UIntegerT | | R | Actual Amplitude (0 ... 4095) |
| Threshold | 85 | 0 | UIntegerT | | R | Threshold (0 ... 4095) |
| Working Parameter load / save index | 98 | 0 | UIntegerT | 0 | RW | Working Parameter load / save index (0 ... 20) |
| Working Parameter | 99 | 0 | RecordT | | RW | Working Parameter |
| Active Meas Method | 99 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 99 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 99 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 99 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 99 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 99 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 99 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 99 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 99 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 0 | 100 | 0 | RecordT | | RW | Dataset 0 |
| Active Meas Method | 100 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 100 | 2 | UIntegerT | | RW | (0 ... 4095) |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| reserved | 100 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 100 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 100 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 100 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 100 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 100 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 100 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 1 | 101 | 0 | RecordT | | RW | Dataset 1 |
| Active Meas Method | 101 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 101 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 101 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 101 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 101 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 101 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 101 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 101 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 101 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 2 | 102 | 0 | RecordT | | RW | Dataset 2 |
| Active Meas Method | 102 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 102 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 102 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 102 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 102 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 102 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 102 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 102 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 102 | 9 | UIntegerT | | RW | (0 ... 4095) |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| Dataset 3 | 103 | 0 | RecordT | | RW | Dataset 3 |
| Active Meas Method | 103 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 103 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 103 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 103 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 103 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 103 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 103 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 103 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 103 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 4 | 104 | 0 | RecordT | | RW | Dataset 4 |
| Active Meas Method | 104 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 104 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 104 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 104 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 104 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 104 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 104 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 104 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 104 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 5 | 105 | 0 | RecordT | | RW | Dataset 5 |
| Active Meas Method | 105 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 105 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 105 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 105 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 105 | 5 | UIntegerT | | RW | (0 ... 4095) |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| Gain | 105 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 105 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 105 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 105 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 6 | 106 | 0 | RecordT | | RW | Dataset 6 |
| Active Meas Method | 106 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 106 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 106 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 106 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 106 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 106 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 106 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 106 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 106 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 7 | 107 | 0 | RecordT | | RW | Dataset 7 |
| Active Meas Method | 107 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 107 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 107 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 107 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 107 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 107 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 107 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 107 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 107 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 8 | 108 | 0 | RecordT | | RW | Dataset 8 |
| Active Meas Method | 108 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| Threshold | 108 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 108 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 108 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 108 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 108 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 108 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 108 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 108 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 9 | 109 | 0 | RecordT | | RW | Dataset 9 |
| Active Meas Method | 109 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 109 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 109 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 109 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 109 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 109 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 109 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 109 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 109 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 10 | 110 | 0 | RecordT | | RW | Dataset 10 |
| Active Meas Method | 110 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 110 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 110 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 110 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 110 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 110 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 110 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 110 | 8 | UIntegerT | | RW | (0 ... 4095) |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| reserved | 110 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 11 | 111 | 0 | RecordT | | RW | Dataset 11 |
| Active Meas Method | 111 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 111 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 111 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 111 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 111 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 111 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 111 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 111 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 111 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 12 | 112 | 0 | RecordT | | RW | Dataset 12 |
| Active Meas Method | 112 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 112 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 112 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 112 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 112 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 112 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 112 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 112 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 112 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 13 | 113 | 0 | RecordT | | RW | Dataset 13 |
| Active Meas Method | 113 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 113 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 113 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 113 | 4 | UIntegerT | | RW | (0 ... 4095) |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| reserved | 113 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 113 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 113 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 113 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 113 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 14 | 114 | 0 | RecordT | | RW | Dataset 14 |
| Active Meas Method | 114 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 114 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 114 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 114 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 114 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 114 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 114 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 114 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 114 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 15 | 115 | 0 | RecordT | | RW | Dataset 15 |
| Active Meas Method | 115 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 115 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 115 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 115 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 115 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 115 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 115 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 115 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 115 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 16 | 116 | 0 | RecordT | | RW | Dataset 16 |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|--------------------|-------|----------|-----------|---------|----|------------------------------------------|
| Active Meas Method | 116 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 116 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 116 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 116 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 116 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 116 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 116 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 116 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 116 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 17 | 117 | 0 | RecordT | | RW | Dataset 17 |
| Active Meas Method | 117 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 117 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 117 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 117 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 117 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 117 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 117 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 117 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 117 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 18 | 118 | 0 | RecordT | | RW | Dataset 18 |
| Active Meas Method | 118 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 118 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 118 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 118 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 118 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 118 | 6 | UIntegerT | | RW | (0 ... 255) |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|------------------------|-------|----------|-----------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| reserved | 118 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 118 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 118 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Dataset 19 | 119 | 0 | RecordT | | RW | Dataset 19 |
| Active Meas Method | 119 | 1 | UIntegerT | | RW | 0: Ultrasonic 1: reserved 2: Error |
| Threshold | 119 | 2 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 119 | 3 | UIntegerT | | RW | (0 ... 4095) |
| Hysteresis | 119 | 4 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 119 | 5 | UIntegerT | | RW | (0 ... 4095) |
| Gain | 119 | 6 | UIntegerT | | RW | (0 ... 255) |
| reserved | 119 | 7 | UIntegerT | | RW | (0 ... 255) |
| Teach parameter | 119 | 8 | UIntegerT | | RW | (0 ... 4095) |
| reserved | 119 | 9 | UIntegerT | | RW | (0 ... 4095) |
| Analysis depth | 135 | 0 | IntegerT | 2 | RW | Number of scans considered for switching the output (1 ... 100) |
| Timer Unit | 192 | 0 | UIntegerT | 0 | RW | Timer Unit 0: off 255: on |
| Function of Timer Unit | 193 | 0 | UIntegerT | 2 | RW | Function of Timer Unit 0: On Delay 1: Off Delay 2: Pulse Stretching 3: Pulse Suppression |
| Time | 194 | 0 | UIntegerT | 200 | RW | Time (1 ... 50000) |
| Number of Objects | 195 | 0 | UIntegerT | | RW | Internal Object Counter |
| Wire function level 1 | 201 | 0 | UIntegerT | 2 | RW | Wire function level 1: 20 - 80 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|-----------------------|-------|----------|-----------|---------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wire function level 2 | 202 | 0 | UIntegerT | 0 | RW | Wire function level 2: 120 - 180 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 3 | 203 | 0 | UIntegerT | 19 | RW | Wire function level 3: 220 - 280 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 4 | 204 | 0 | UIntegerT | 20 | RW | Wire function level 4: 320 - 380 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 5 | 205 | 0 | UIntegerT | 15 | RW | Wire function level 5: 420 - 480 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 6 | 206 | 0 | UIntegerT | 16 | RW | Wire function level 6: 520 - 580 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|------------------------|-------|----------|-----------|---------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wire function level 7 | 207 | 0 | UIntegerT | 0 | RW | Wire function level 7: 620 - 680 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 8 | 208 | 0 | UIntegerT | 0 | RW | Wire function level 8: 720 - 780 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 9 | 209 | 0 | UIntegerT | 0 | RW | Wire function level 9: 820 - 880 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 10 | 210 | 0 | UIntegerT | 0 | RW | Wire function level 10: 920 - 980 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Wire function level 11 | 211 | 0 | UIntegerT | 0 | RW | Wire function level 11: 1020 - 1080 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|-------------------------------|-------|----------|-----------|---------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wire function level 12 | 212 | 0 | UIntegerT | 0 | RW | Wire function level 12: 1120 - 1180 ms 0: None 2: Manual Teach 15: easyTune Down 16: easyTune Up 19: Logic High active - Not Inverted 20: Logic Low active - Inverted 22: Pulse stretching on 23: Pulse stretching off 32: Auto-Level-Control on 33: Auto-Level-Control off |
| Temperature | 220 | 0 | IntegerT | | R | Temperature |
| Minus button easyTune disable | 227 | 0 | UIntegerT | 0 | RW | Minus button easyTune disable 255: enable 0: disable |
| Teach button easyTune disable | 230 | 0 | UIntegerT | 0 | RW | Teach button easyTune disable 255: enable 0: disable |
| Minus button function level 1 | 238 | 0 | IntegerT | -1 | RW | Minus button function level 1 0: None 2: Manual Teach 7: KeyLock toggle 15: easyTune Down 16: easyTune Up 21: Logic toggle 24: Pulse stretching toggle -1: Disable |
| Minus button function level 2 | 239 | 0 | IntegerT | 0 | RW | Minus button function level 2 0: None 2: Manual Teach 7: KeyLock toggle 15: easyTune Down 16: easyTune Up 21: Logic toggle 24: Pulse stretching toggle -1: Disable |
| Minus button function level 3 | 240 | 0 | IntegerT | 0 | RW | Minus button function level 3 0: None 2: Manual Teach 7: KeyLock toggle 15: easyTune Down 16: easyTune Up 21: Logic toggle 24: Pulse stretching toggle -1: Disable |
| Teach button function level 1 | 241 | 0 | IntegerT | 2 | RW | Teach button function level 1 0: None 2: Manual Teach 7: KeyLock toggle 15: easyTune Down 16: easyTune Up 21: Logic toggle 24: Pulse stretching toggle -1: Disable |

| Parameter | Index | Subindex | Datentyp | Default | AR | Beschreibung |
|-------------------------------|-------|----------|-----------|---------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Teach button function level 2 | 242 | 0 | IntegerT | 0 | RW | Teach button function level 2 0: None 2: Manual Teach 7: KeyLock toggle 15: easyTune Down 16: easyTune Up 21: Logic toggle 24: Pulse stretching toggle -1: Disable |
| Teach button function level 3 | 243 | 0 | IntegerT | 21 | RW | Teach button function level 3 0: None 2: Manual Teach 7: KeyLock toggle 15: easyTune Down 16: easyTune Up 21: Logic toggle 24: Pulse stretching toggle -1: Disable |
| Pin 4 function | 251 | 0 | UIntegerT | 1 | RW | Pin 4 function 0: No Pin Function 1: Pin is SSC1 (High active – Not inverted) 2: Pin is SSC1 (Low active – Inverted) |
| Pin 2 function | 252 | 0 | UIntegerT | 2 | RW | Pin 2 function 0: No Pin Function 1: Pin is SSC1 (High active – Not inverted) 2: Pin is SSC1 (Low active – Inverted) |

9 Technische Daten

9.1 Allgemeine Daten

Tabelle 9.1: Sensor und IODD-Version

| | |
|--------------------|-----------------------------------------------------------|
| IODD-Version | V1.1 |
| IODD-Freigabedatum | 2020-8-12 |
| Gerätefamilie | Label Sensor |
| Geräte-ID | 2520 |
| Gerätename | GSU14E/LGT |
| Gerätevariante | GSU14E/LGT.3-M12 (50142875), GSU14E/LGT.3-M12V (50142876) |