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Section B – Electrical engineering

Part 1: Annex C – EPLAN

The following delivery specifications of Wieland-Werke AG form part of the contract.
Any deviating specifications are to be agreed upon between the supplier/contractor and Wieland, and documented.

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1 General

1.1 Applicable delivery specifications LvE

For the design and construction of distribution panels, in principle the “Delivery specifications for electrical engineering (LvE)” apply

- Part 1.2 - Design of switch cabinets, consoles and control panels
- Part 1.3 - Machinery and equipment installation

Structure file

- xxxxxxxx – Definition date in the format YYYYMMDD (e.g. 20210120 -> 20 Jan 2021); in the event of an alteration, an updated date is used here. This way, the current data is always available to the supplier.
- If the WWAG base project is not used, the individual structure files can be requested from Wieland and imported into the EPLAN project used by the supplier.

1.2 WWAG base project

Wieland provides its suppliers with an EPLAN base project (zw9 file, henceforth referred to as WWAG base project). In this project, the project settings are set up in the way that is usual for Wieland. Some pages have also been created, to indicate the page structure. The existing pages can be deleted or modified if necessary.

1.3 Template and sample projects

For easier integration of Wieland-specific templates, several example projects in zw1 format are available.

Vorlage_Messinstrumentierung_2020

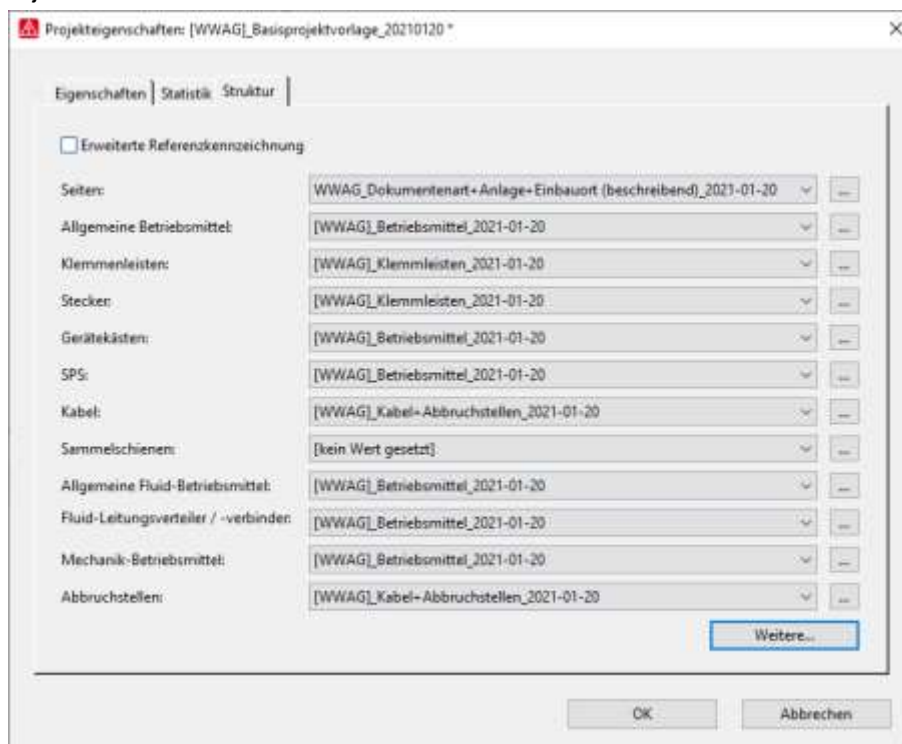
Measuring transducer terminals, measuring instrument, interface connection

MDE_REVPI_EPLAN.zw1

Instrument setup, example wiring

2 Structures

2.1 Project



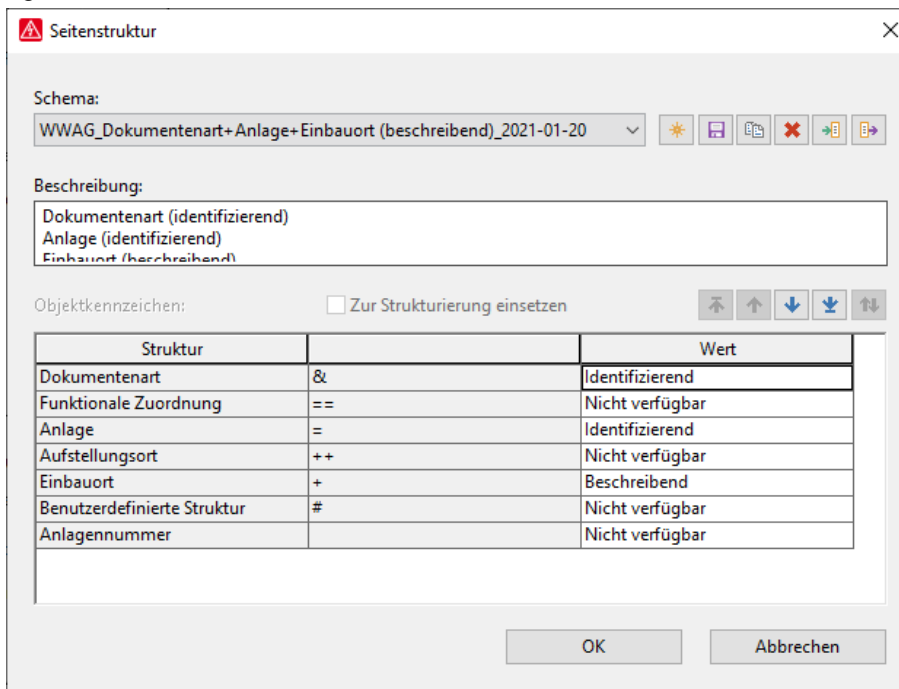
Section B – Electrical engineering

Part 2: Light and power installation

Legend:

| DE | EN |
|---|--|
| Projekteigenschaften: | Project properties: |
| [WWAG]_Basisprojektvorlage_20210120 | [WWAG]_Basisprojektvorlage_20210120 |
| Eigenschaften | Properties |
| Statistik | Statistics |
| Struktur | Structure |
| Erweiterte Referenzkennzeichnung | Extended reference identification |
| Seiten: | Pages: |
| Allgemeine Betriebsmittel: | General devices: |
| Klemmenleisten: | Terminal strip: |
| Stecker: | Plug: |
| Gerätekästen: | Black boxes: |
| SPS: | PLC: |
| Kabel: | Cables: |
| Sammelschienen: | Busbars: |
| Allgemeine Fluid-Betriebsmittel: | General fluid devices: |
| Fluid-Leitungsverteiler / -verbinder: | Fluid connection splicer / line connector: |
| Mechanik-Betriebsmittel: | Mechanical devices: |
| Abbruchstellen: | Interruption points: |
| Weitere... | More... |
| OK | OK |
| Abbrechen | Cancel |
| WWAG_Dokumentenart+Anlage+Einbauort (beschreibend)_2021-01-20 | WWAG_Document-type+Higher-level-function+Mounting-location (describing)_2021-01-20 |
| [WWAG]_Betriebsmittel_2021-01-20 | [WWAG]_Devices_2021-01-20 |
| [WWAG]_Klemmleisten_2021-01-20 | [WWAG]_Terminal-strips_2021-01-20 |
| [WWAG]_Kabel+Abbruchstellen_2021-01-20 | [WWAG]_Cables+Interruption-points_2021-01-20 |
| [kein Wert gesetzt] | [No value set] |

2.2 Pages



Legend:

| DE | EN |
|----------------|----------------|
| Seitenstruktur | Page Structure |
| Schema: | Schema: |

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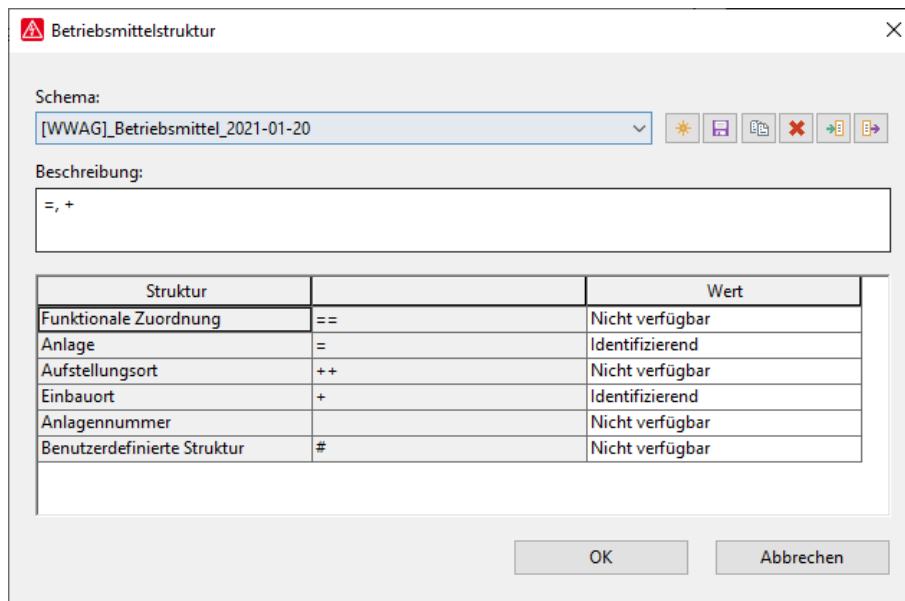
Part 2: Light and power installation

| | |
|---------------------------------|-------------------------------------|
| Beschreibung: | Description: |
| Dokumentenart (identifizierend) | Document type (identifying) |
| Anlage (identifizierend) | Higher-level function (identifying) |
| Einbauort (beschreibend) | Mounting location (describing) |
| Objektkennzeichen: | Object identifier: |
| Zur Strukturierung einsetzen | Use for structuring |
| Struktur | Structure |
| Wert | Value |
| Dokumentenart | Document type |
| Funktionale Zuordnung | Functional assignment |
| Anlage | Higher-level function |
| Aufstellungsort | Installation site |
| Einbauort | Mounting location |
| Benutzerdefinierte Struktur | User-defined structure |
| Anlagennummer | Higher-level function number |
| Identifizierend | Identifying |
| Nicht verfügbar | Not available |
| Beschreibend | Describing |

Structure file: PRP.[WWAG]_xxxxxxx_Seiten.xml

Valid for: Pages:

2.3 Devices



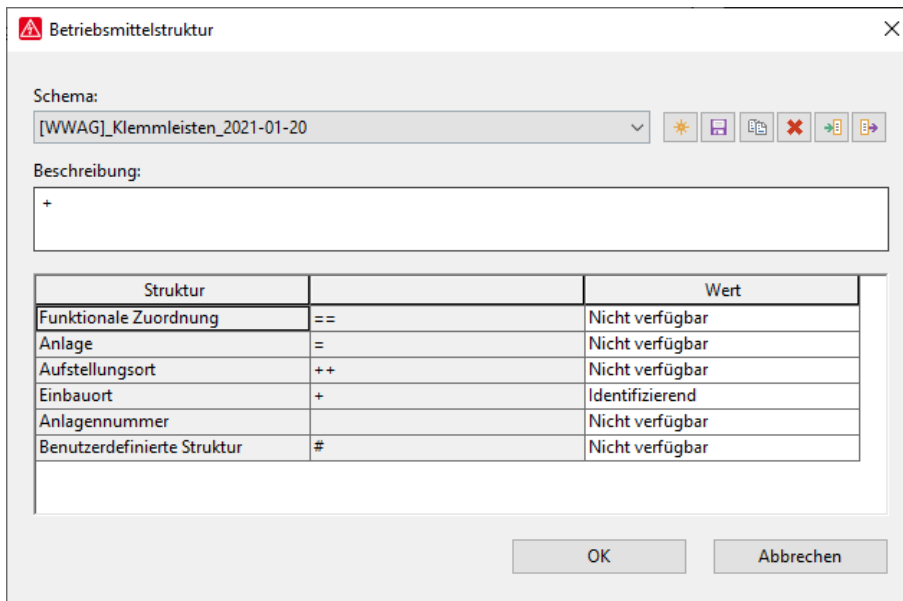
Legend:

| | |
|------------------------|------------------|
| DE | EN |
| Betriebsmittelstruktur | Device Structure |

Structure file: PRde.[WWAG]_xxxxxxx_Betriebsmittel.xml

Valid for: General devices:
 Black boxes:
 PLC:
 General fluid devices:
 Fluid connection splicer / line connector:
 Mechanical devices:

2.4 Terminal strips

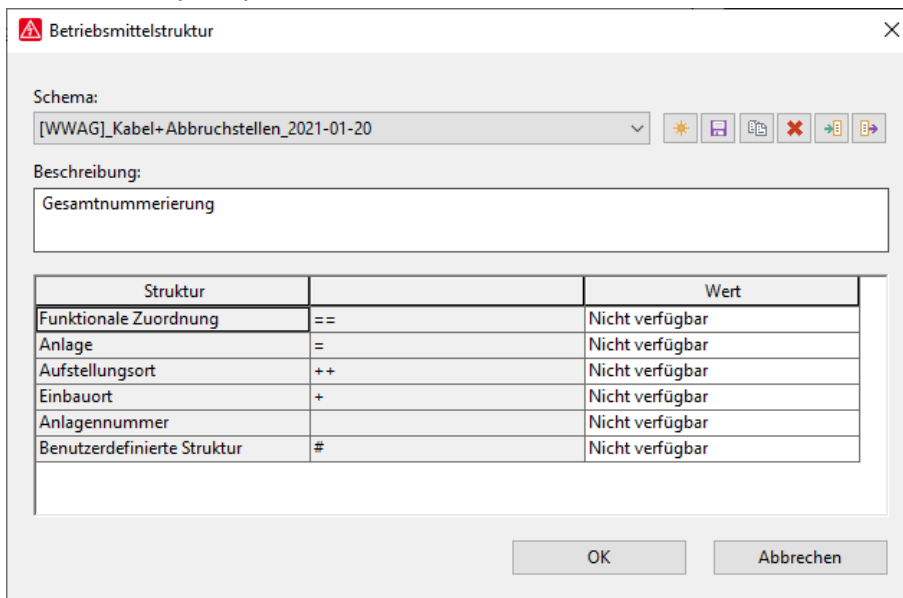


Structure file: PRde.[WWAG]_xxxxxxx Klemmleisten.xml

Valid for: Terminal strips:

Plugs:

2.5 Cables + interruption points



Legend:

| DE | EN |
|-------------------|----------------------|
| Gesamtnumerierung | Sequential numbering |

Structure file: PRde.[WWAG]_xxxxxxx_Kabel+Abbruchstellen.xml

Valid for: Cables:

Interruption points:

3 Layer management

The base project already contains the correct settings. If the WWAG base project is not used, the layers should be set up as described.

Structure file: xxxxxxxx_Ebenen-Konfiguration.elc

| Layer | Description | Font size |
|----------|---|-----------|
| EPLAN400 | Property-placement.Device-tag | 3.50 mm |
| EPLAN401 | Property-placement.Terminal-strip | 2.50 mm |
| EPLAN402 | Property-placement.Plug | 2.50 mm |
| EPLAN403 | Property-placement.Interruption-point-designations | 2.50 mm |
| EPLAN404 | Property-placement.Potential-name | 2.50 mm |
| EPLAN407 | Property-placement.Cable.Device-tag | 2.50 mm |
| EPLAN408 | Property-placement.Terminals.Device-tags | 2.50 mm |
| EPLAN409 | Property-placement.Plugs.Device-tags | 2.50 mm |
| EPLAN410 | Property-placement.Net-name | 2.50 mm |
| EPLAN420 | Property-placement.Connection-point-designations | 2.50 mm |
| EPLAN421 | Property-placement.Connection-point-descriptions | 2.50 mm |
| EPLAN422 | Property-placement.Terminal-designations | 2.50 mm |
| EPLAN423 | Property-placement.Pin-designations | 2.50 mm |
| EPLAN424 | Property-placement.Device-connection-point-designations | 2.50 mm |
| EPLAN425 | Property-placement.Symbolic-addresses | 2.50 mm |
| EPLAN426 | Property-placement.PLC-addresses | 2.50 mm |
| EPLAN427 | Property-placement.PLC-data-type | 2.50 mm |
| EPLAN428 | Property-placement.PLC-connection-point-designations | 2.50 mm |
| EPLAN429 | Property-placement.PLC-function-texts | 2.50 mm |
| EPLAN440 | Property-placement.Cross-references | 2.50 mm |
| EPLAN441 | Property-placement.PLC-cross-references | 2.50 mm |
| EPLAN442 | Property-placement.Interruption-point-cross-references | 2.50 mm |
| EPLAN514 | Property-placement.Cables | 2.50 mm |

4 Project handover

For the project handover, the EPLAN project created by the supplier is saved as a zw1 file via Project – Save – Project with the following settings. The zw1 file is then transferred to Wieland digitally. In addition to the project saved as a zw1 file, a PDF file of the entire project is handed over.



Legend:

| DE | EN |
|-------------------------------------|-----------------------------------|
| Projekte sichern | Save Project |
| Methode: | Method: |
| Zusätzlich speichern | Save additionally |
| Optionen | Options |
| Projekt komplett sichern | Back up entire project |
| Referenzierte Daten kopieren | Copy referenced data |
| Eingelagerte Fremddokumente sichern | Back up stored external documents |
| Eingelagerte Bilddateien sichern | Back up stored image files |

5 Page naming

For page designations, two versions are available.

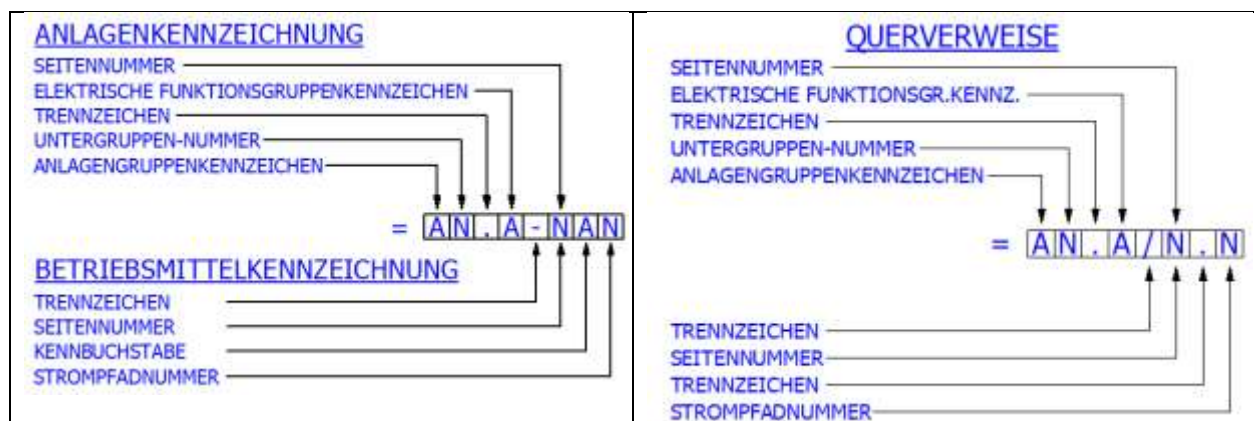
5.1 Page number assignment from EPLAN (preferred method)

Higher-level function identifier is created in the page structure. The individual page numbers are assigned by EPLAN.

| Page structure | Device designation |
|----------------|--|
| | <p>X pages are created below the higher-level function identifier.</p> <p>In order to be able to recognise immediately from the device designation on which page within the higher-level function group the item is shown, the page number appears before the identifier of the device.</p> <p>Device identifier =B1.C-2Q3 means the device is shown in the higher-level function group =B1.C page 2 in the current path 3. The identifier of the device is Q.</p> |

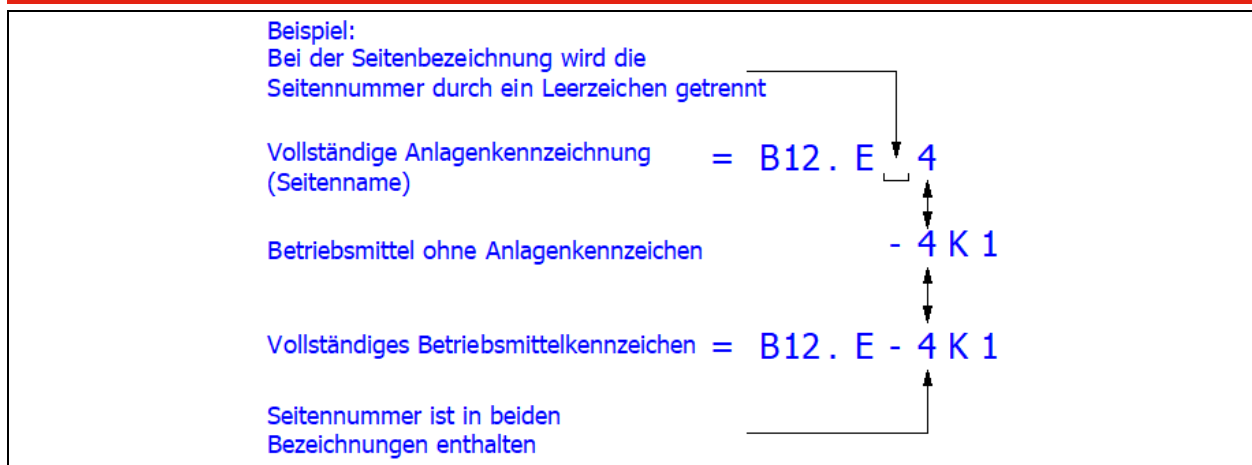
Legend:

| DE | EN |
|---|--|
| S (Stromlaufplan) | S (circuit diagram) |
| B1 (400VAC Einspeisung) | B1 (400 V AC power supply) |
| C (Stromversorgung, Hilfsspannung <=230V) | C (power supply, auxiliary voltage <= 230 V) |
| 1 Einspeisung | 1 Power supply |
| 2 400VAC Einspeisung Messung | 2 400 V AC power supply measurement |
| E (Einspeisung, Hilfsspannung <=230V) | E (power supply, auxiliary voltage <= 230 V) |
| 1 Einspeisung | 1 Power supply |
| 2 Einspeisung | 2 Power supply |
| 3 Einspeisung | 3 Power supply |
| B2 (230V AC Fremdspannung) | B2 (230 V AC external voltage) |
| E (Einspeisung, Hilfsspannung <= 230V) | E (power supply, auxiliary voltage <= 230 V) |
| Betriebsmittelbezeichnung | Device designation |



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Legend:

| DE | EN |
|--|--|
| ANLAGENKENNZEICHNUNG | HIGHER-LEVEL FUNCTION IDENTIFIER |
| SEITENNUMMER | PAGE NUMBER |
| ELEKTRISCHE FUNKTIONSGRUPPENKENNZEICHEN | ELECTRICAL FUNCTION GROUP IDENTIFIER |
| TRENNZEICHEN | SEPARATOR |
| UNTERGRUPPEN-NUMMER | SUBGROUP NUMBER |
| ANLAGENGRUPPEKENNZEICHEN | HIGHER-LEVEL FUNCTION GROUP IDENTIFIER |
| BETRIEBSMITTELKENNZEICHNUNG | DEVICE IDENTIFIER |
| KENNBUCHSTABE | IDENTIFIER |
| STROMPFADNUMMER | CURRENT PATH NUMBER |
| QUERVERWEISE | CROSS-REFERENCES |
| Beispiel: | Example: |
| Bei der Seitenbezeichnung wird die Seitennummer durch ein Leerzeichen getrennt | In the page designation, the page number is separated by a space |
| Vollständige Anlagenkennzeichnung (Seitenname) | Complete higher-level function identifier (page name) |
| Betriebsmittel ohne Anlagenkennzeichen | Device without higher-level function identifier |
| Vollständiges Betriebsmittelkennzeichen | Complete device identifier |
| Seitennummer ist in beiden Bezeichnungen enthalten | Page number is included in both designations |

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5.2 Page number is managed manually

Higher-level function identifier is created manually in the page structure. A page with the number 1 is created in each higher-level function identifier. The device identifier is composed as follows:

| Page Structure | Device designation |
|----------------|---|
| | <p>One page is created below the higher-level function identifier.</p> <p>Since there is always only 1 page per higher-level function identifier, the page number does not have to be specified separately for device identifiers.</p> <p>Device identifier =B1.C2-Q3 means the device is shown in the higher-level function group =B1.C page 2 in the current path 3. The identifier of the device is Q.</p> |

Legend:

| DE | EN |
|------------------------------|-------------------------------------|
| S (Stromlaufplan) | S (circuit diagram) |
| B1 (400VAC Einspeisung) | B1 (400 V AC power supply) |
| 1 400VAC Einspeisung Messung | 1 400 V AC power supply measurement |
| B2 (230V AC Fremdspannung) | B2 (230 V AC external voltage) |