Anlage:

Hochbehälter

Bergstation Maria Alm TWS WVA Natrun

Firma:

Grundfos

BESTELLDATEN:

BESTELLNR./DATUM: 4511180715/ 06.07.2018

KUNDE: pr tech GmbH

SCHALTSCHRANKAUSFÜHRUNG

SCHALTSCHRANKGRÖSSE:	500x700x250	(BxHxT)
SOCKEL:	-	(H)
LACKIERUNG:	RAL 7035	
SCHUTZART:	IP54	
SCHUTZMASSNAHME:	lt. EVU	
BLINDSCHALTBILD:	nein	(BxH)
KABELEINFÜHRUNG:	unten	
TÜRANSCHLAG:	rechts	

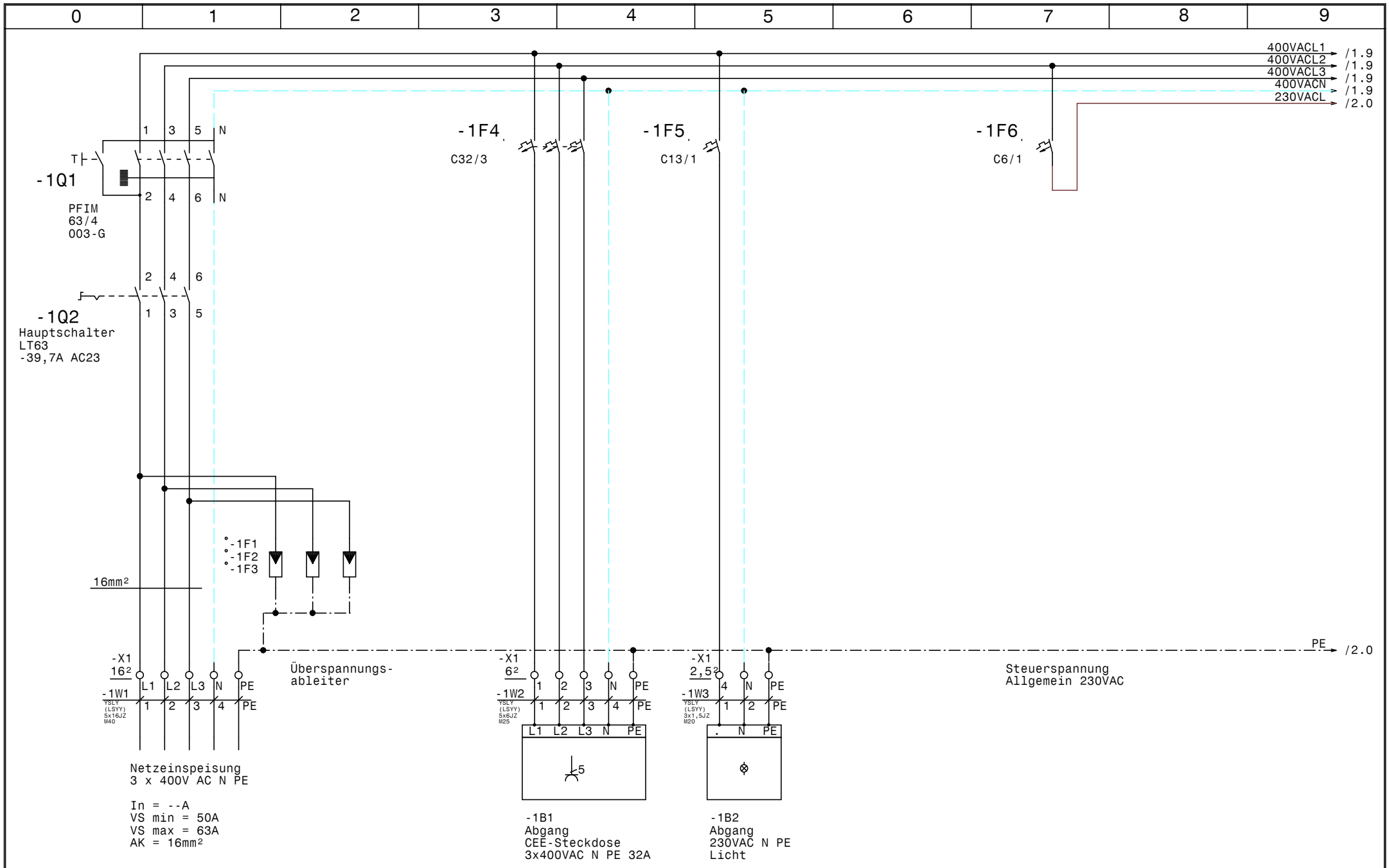
VERDRAHTUNGSFARBEN

HAUPTSTROMKREIS 400/230V:		schwarz
NEUTRALLEITER:		hellblau
SCHUTZLEITER:		gelb/grün
STEUERSPANNUNG 230VAC:		
ohne Trafo:	L/N	braun/hellblau
mit Trafo:	L/N	rot/rot-weiß
STEUERSPANNUNG 0-24VAC:	L/N	blau/blau-weiß
STEUERSPANNUNG 0-24VDC:	+/-	blau/blau-weiß
GND, DDC:		blau-weiß
MESSLEITUNGEN, FÜHLER:		grün
POTENTIALFREIE LEITUNGEN:		orange
FREMDSPANNUNG:		orange

_ ! ! A C H T U N G ! ! _

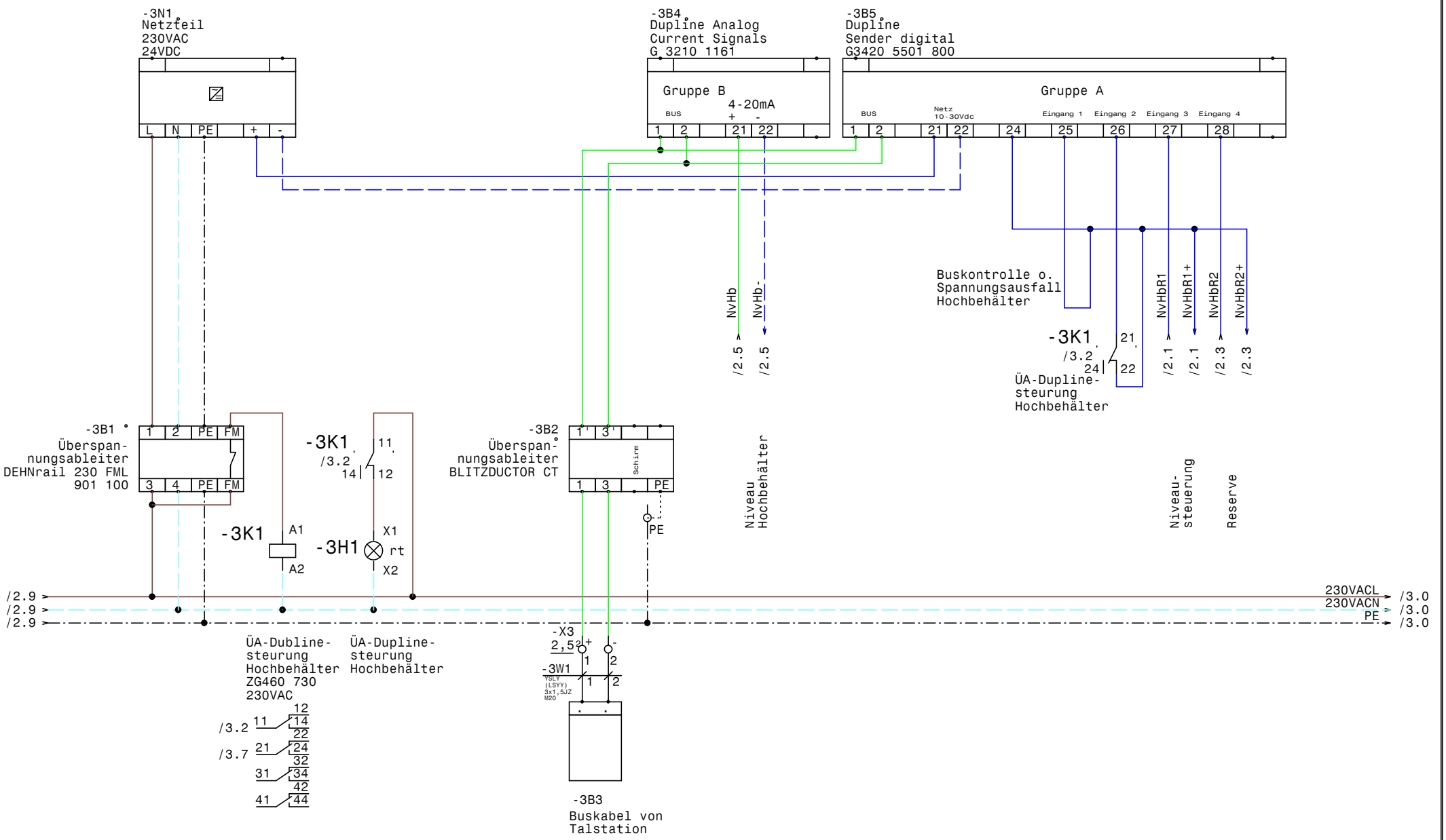
Bei Änderungen im Schaltschrank und auch an den externen Geräten die nicht von der Erzeugerfirma durchgeführt werden entfällt Garantie und Haftung. Dadurch entstehende Kosten werden nicht anerkannt. Sollte dies jedoch aus technischer Sicht notwendig sein ist die Erzeugerfirma zu verständigen. Schutzmaßnahmen des Örtlichen EVU's beachten! Motorschutzgeräte nach den tatsächlichen Aufnahmestrom der Motoren einstellen! Vor der Inbetriebnahme der Anlage sind sämtliche Schraub-, Klemm- und Steckverbindungen auf festen Sitz zu prüfen und gegebenenfalls nachzuziehen!

Blattverzeichnis



GRUNDFOS	Datum	24.09.18	ELEKTRO ANLAGENBAU	Hochbehälter Bergstation Maria Alm TWS WVA Natrun Netzanschluß	Zeichn.Nr.: 135/18/02
	Bearb.	Hattinger			Blatt 1
	Gepr.				von 3 Bl.
	Norm				

GRUNDFOS	Datum	24.09.18	ELEKTRO ANLAGENBAU	Hochbehälter Bergstation Maria Alm TWS WVA Natrun Niveau Hochbehälter RIA45 A1C1	Zeichn.Nr.: 135/18/02 Blatt 2 von 3 Bl.
	Bearb.	Hattinger			
	Gepr.				
	Norm				



GRUNDFOS	Datum	24.09.18	ELEKTRO ANLAGENBAU	Hochbehälter Bergstation Maria Alm TWS WVA Natrun Dupline Signalübertragung	Zeichn.Nr.: 135/18/02
	Bearb.	Hattinger			Blatt 3
	Gepr.				von 3 Bl.
	Norm				

0	1	2	3	4	5	6	7	8	9

Nr.	Feldgerät	Leitungs-bezeichnung	Leitungs-typ	Anzahl Adern	Zielbezeichnung
1	-1We1	-1W1	YSLY (LSYY) 5x16JZ M40	5	Netzeinspeisung 3 x 400V AC N PE
2	-1B1	-1W2	YSLY (LSYY) 5x6JZ M25	5	Abgang CEE-Steckdose 3x400VAC N PE 32A
3	-1B2	-1W3	YSLY (LSYY) 3x1,5JZ M20	3	Abgang 230VAC N PE Licht
4	-2B1	-2W1	YSLCY (LSYCvY) 2x0,75OZ M16	2	Niveausonde Hochbehälter LH100 4-20mA 0-5m
5	-3B3	-3W1	YSLY (LSYY) 3x1,5JZ M20	2	Buskabel von Talstation

Zust.	Änderung	Datum	Name		
				Datum	24.09.18
				Bearb.	Hattinger
				Gepr.	
				Norm	

ELEKTRO
ANLAGENBAU

Hochbehälter
Bergstation Maria Alm TWS WVA Natrun

Kabelliste

Zeichn.Nr.: 135/18/02
Blatt 1
von 1 Bl.

0	1	2	3	4	5	6	7	8	9

Stück Zahl	Artikel Bezeichnung	Artikel Beschreibung	Artikel Bezüge
1		RIA45 A1C1	-2N1
3		Überspannungsableiter mit Meldekon	-1F1, -1F2, -1F3
1		Netzteil 230VAC 24VDC	-3N1
1	BLITZDUCTOR CT	Überspannungsableiter	-3B2
1	C13/1	Sicherungsautomaten	-1F5
1	C32/3	Sicherungsautomaten	-1F4
1	C6/1	Sicherungsautomaten	-1F6
1	DEHNrail 230 FML 901 100	Überspannungsableiter	-3B1
1	EK 16 ge/gr	Erdungsklemme	-X1
3	EK 2,5 ge/gr	Erdungsklemme	-X1, -X2
1	EK 6 ge/gr	Erdungsklemme	-X1
1	G 3210 1161	Dupline Analog Current Signals	-3B4
1	G3420 5501 800	Dupline Sender digital	-3B5
1	Klemme 16 blau	Klemme N	-X1
3	Klemme 16 grau	Klemme L	-X1
1	Klemme 2,5 blau	Klemme N	-X1
5	Klemme 2,5 grau	Klemme L	-X3, -X1, -X2
1	Klemme 6 blau	Klemme N	-X1
3	Klemme 6 grau	Klemme L	-X1
1	LT63 -39,7A AC23	Hauptschalter	-1Q2
1	M16	Kabelverschraubung	-2W1
2	M20	Kabelverschraubung	-3W1, -1W3
1	M25	Kabelverschraubung	-1W2
1	M40	Kabelverschraubung	-1W1
1	PFIM-63/4/003-G	FI für Überlast bis 40A	-1Q1
1	Signalleuchte rot	Signalglimmlampe rot	-3H1
1	WS 5725 B=500 H=700 T=250	Wandschrank IP 55	-0N1
1	YZG 78 700	Fassung für Miniatur Relais ZG	
1	ZG460 730 230VAC	Miniatur - Relais Type ZG	-3K1

Zust.	Änderung	Datum	Name		
				Datum	24.09.18
				Bearb.	Hattinger F.
				Gepr.	
				Norm	

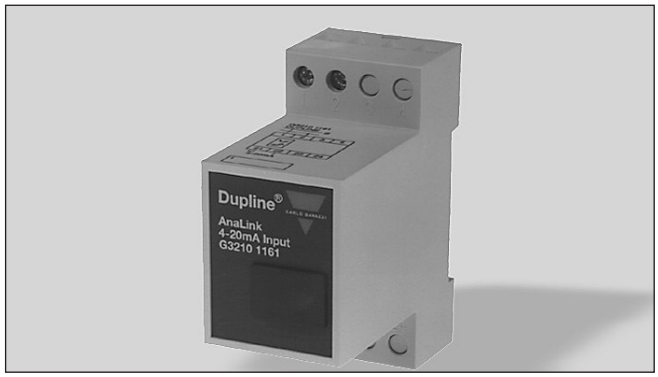
ELEKTRO ANLAGENBAU

Hochbehälter
Bergstation Maria Alm TWS WVA Natrun

Materialliste

Zeichn.Nr.: 135/18/02
Blatt 1
von 1 Bl.

Transmitter for Analog Current Signals
Type G 3210 1161



- **AnaLink transmitter with 4 to 20 mA input**
- **8-bit resolution**
- **Optical isolation**
- **Uses only 1 channel**
- **Channel coding by GAP 1605**
- **Supplied by Dupline® and current signal**
- **H2-housing**
- **For mounting on DIN-rail in accordance with EN 50022**

Product Description

Dupline® Analink transmitter with 4 to 20 mA input. Converts the 4 to 20 mA input signal to an 8-bit binary value, which is transmitted to the controller G 3890 0030 230. In this unit the analog values can be scaled, logged and printed out and/or read from a PC. The 4 to 20 mA signal must be able to supply a voltage drop of 6 V, since the analog part of the transmitter is supplied by the input signal.

Ordering Key

G 3210 1161

Type: Dupline®
Type

Type Selection

Supply	**Ordering no.** **1 channel** **4 to 20 mA**
By Dupline® and current signal	**G 3210 1161**

Supply Specifications

Current consumption	
from Dupline®	< 1.1 mA
Power dissipation	< 10 mW

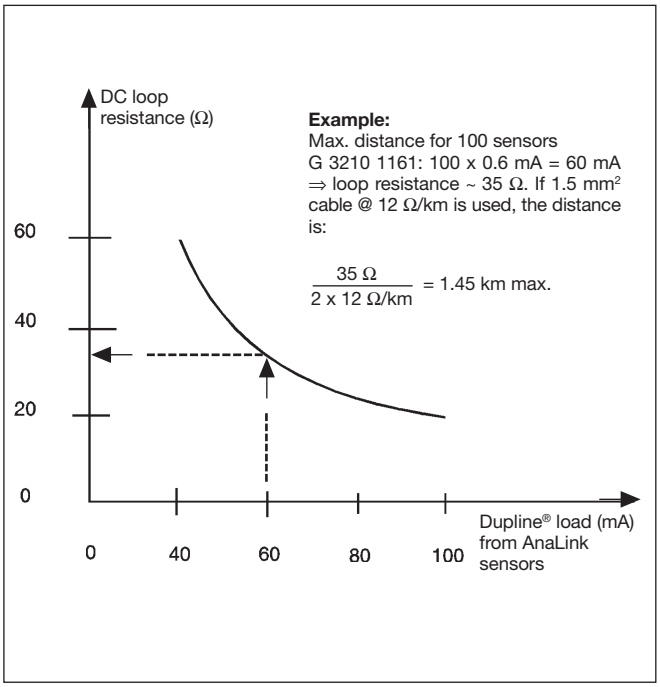
Input Specifications

Signal input	4 to 20 mA
Voltage drop	≤ 6 V
Resolution	8-bit (62.5 µA/LSB)
Max. current	100 mA
Inaccuracy	
(entire temperature range)	≤ 1%
Cable length	≤ 25 m
Dielectric voltage	≥ 2 kV
Response time	256 pulse trains (~ 18 s @ 64 channels)

General Specifications

Channel programming	By GAP 1605
Channel assignment	1 channel, freely programmable
Environment	
Degree of protection	IP 20
Pollution degree	3 (IEC 60664)
Operating temperature	0° to +50°C (+32° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
Humidity (non-condensing)	20 to 80% RH
Mechanical resistance	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
Dimensions	
Material	
(see "Technical Information")	H2-housing
Weight	90 g

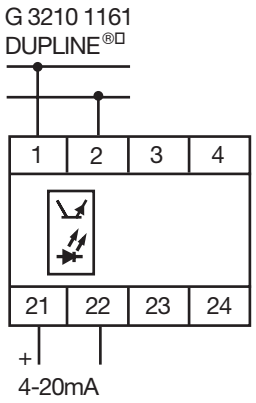
Distance Versus No. of Sensors



Example:
Max. distance for 100 sensors
G 3210 1161: 100 x 0.6 mA = 60 mA
⇒ loop resistance ~ 35 Ω. If 1.5 mm² cable @ 12 Ω/km is used, the distance is:

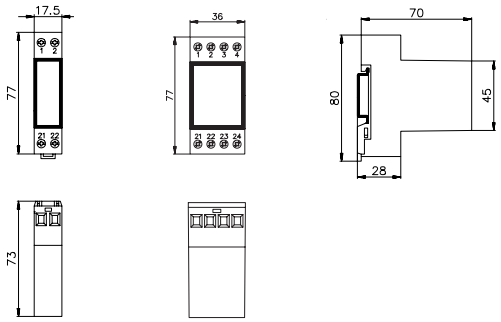
$$\frac{35\ \Omega}{2 \times 12\ \Omega/km} = 1.45\ km\ max.$$

Wiring Diagram



Dimensions (mm)

H1/H2-housing



Accessories

DIN-rail FMD 411

For further information refer to "Accessories".

Transmitter for Digital Signals
Type G 3420 5501

Dupline® Fieldbus Installationbus

- **8-channel transmitter**
- **Optoisolated contact or NPN transistor inputs**
- **H4-housing**
- **For mounting on DIN-rail (EN 50022)**
- **LED-indications for supply, input activated and Dupline® carrier**
- **AC or DC power supply**
- **Channel coding by GAP 1605**

Product Description

Dupline® transmitter for exter-nal supply. Detects the states of 8 volt free contacts and signals from devices with open collector NPN transistor output, e.g. inductive proximity switch EI .... N...

Ordering Key

G 3420 5501 024

- **Type: Dupline®**
- **H4-housing**
- **Transmitter**
- **No. of channels**
- **Input type**
- **Power supply**

Type Selection

Supply	Ordering no. 8 channels Contact/NPN transistor
24 VAC	**G 3420 5501 024**
115 VAC	**G 3420 5501 115**
230 VAC	**G 3420 5501 230**
10 to 30 VDC	**G 3420 5501 800**

Input Specifications

Inputs	8 contacts or NPN transistors
AC version:	
Open loop voltage	7 VDC
Short-circuit current	3 mA
DC version:	
Open loop voltage	10 to 30 VDC
Short-circuit current	≤ 8 mA
Operating time for signal "1"	≤ 1 pulse train + 30 ms
Operating time for signal "0"	≤ 1 pulse train + 30 ms
Contact resistance	≤ 100 Ω
Cable length	≤ 25 m
Dielectric voltage	
Inputs - Dupline®	≥ 200 VAC (rms)

Supply Specifications

Power supply AC types		Overvoltage cat. III (IEC 60664)
Rated operational voltage through term. 21 & 22	230	230 VAC, ±15% (IEC 60038)
	115	115 VAC, ±15% (IEC 60038)
	024	24 VAC, ±15%
Frequency		45 to 65 Hz
Voltage interruption		≤ 40 ms
Rated operational power		typ. 2.5 VA
Power dissipation		≤ 4 W
Rated impulse withstand voltage	230	4 kV
	115	2.5 kV
	024	800 V
Dielectric voltage		
Supply - Dupline®		≥ 4 kVAC (rms)
Supply - Inputs		≥ 4 kVAC (rms)
Power supply DC types		Overvoltage cat. III (IEC 60664)
Rated operational voltage	800	10 to 30 VDC (ripple included)
Ripple		≤ 3 V
Reverse-polarity protection		yes
Rated operational current		≤ 100 mA
Power dissipation		≤ 3.5 W
Inrush current		≤ 1 A
Rated impulse withstand voltage		800 V
Dielectric voltage		
Supply - Dupline®		≥ 200 VAC (rms)
Supply - Inputs		None

Dupline®
Fieldbus Installationbus

General Specifications

Power ON delay	typ. 2 s
Indication for	
Supply ON	LED, green
Input activated	LED, red
Dupline® carrier	LED, yellow
Environment	
Degree of protection	IP 20
Pollution degree	3 (IEC 60664)
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
Humidity (non-condensing)	20 to 80%
Mechanical resistance	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
Dimensions	
Material	
(see Technical Information)	H4-Housing
Weight	250 g

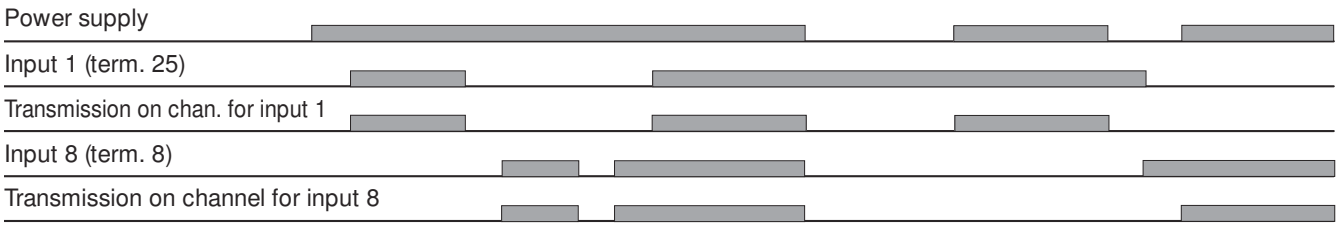
Mode of Operation

8-channel transmitter with 8 inputs for contacts or NPN transistors. An external power supply is not required.
Each input may be coded individually by means of the code programmer GAP 1605. For details, please refer to the respective data sheet.
When a contact is used to short-circuit terminals 24 and 25 (input 1), the transmitter transmits on the channel coded for input 1.
When an NPN open collector transmitter between terminals 24 and 28 (input 4) pulls the input low (< +1 V), the transmitter transmits on the channel coded for input 4.
Whenever the contact of the input is opened, the transmitter stops transmitting on the respective channel.

Notes:
- Terminals 4 and 24 are internally connected.
- Terminals 4 and 24 are common (minus).

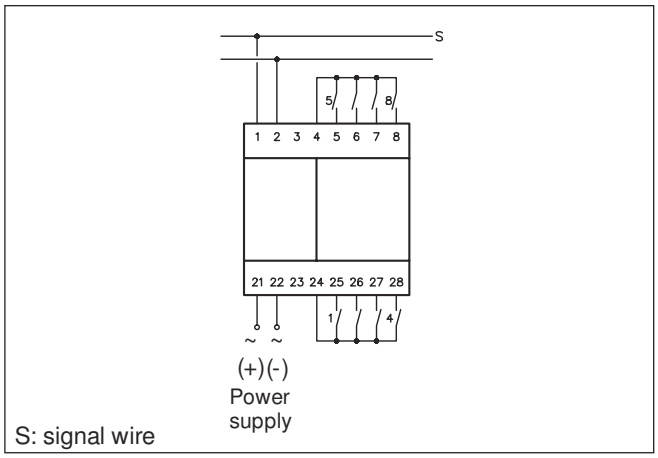
Input connections	
Input 1:	terminals 24 & 25
Input 2:	terminals 24 & 26
Input 3:	terminals 24 & 27
Input 4:	terminals 24 & 28
Input 5:	terminals 4 & 5
Input 6:	terminals 4 & 6
Input 7:	terminals 4 & 7
Input 8:	terminals 4 & 8

Operation Diagram

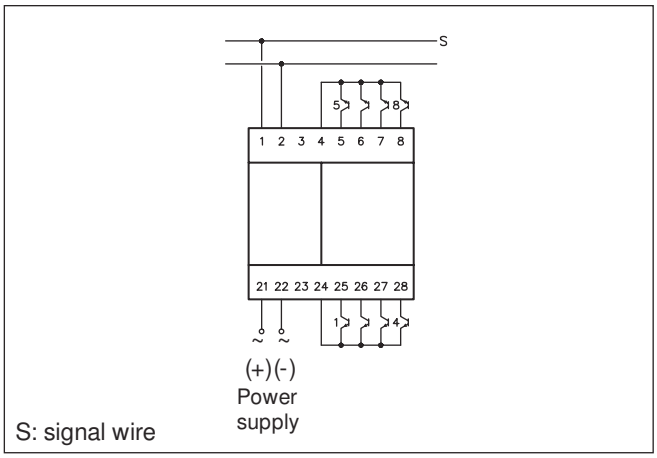


Wiring Diagrams

8 channels G 3420 5501 ...
Contact input

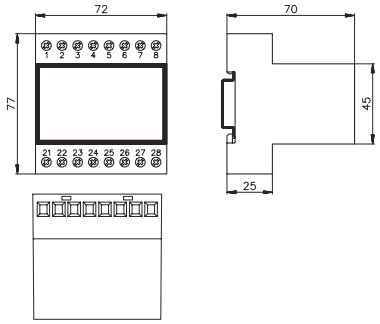


8 channels G 3420 5501 ...
NPN transistor input



Dimensions (mm)

H4-housing



Accessories

For further information, see "Accessories".