



- For energizing and state-detection of NAMUR sensors (EN 60947-5-6)
- Connected sensor can be located in hazardous explosive areas up to zone 0
- Relay or transistors output
- High frequency switching (up to 2kHz – ver. "T")
- LED state indication
- Power supply 230 V AC or 24 V DC
- Mounting on DIN rail 35 mm



Supply and switching units NxxU are used for energizing of NAMUR output sensors (DLS–27Xi, CPS–24Xi etc.) located in hazardous explosive areas. Due to state of connected sensor they switch their output changeover relay contact or transistor switch. Moreover they can provide simple 2-state level regulation (pump-up and pump-down control).

Classification of explosive-proof performance:

 II (1)G [Ex ia] IIC  
 I (M1) [Ex ia] I

### FEATURES OF VARIANTS

- **NSSU–811** *Single channel unit without additional functions* for supply and state detection of one NAMUR sensor. Output in variant "T" (transistor switch) or "R" (relay contact).
- **NSSU–812** *Single channel unit with LFD\* system* for supply and state-detection of one NAMUR sensor. Output in variant "R" (relay contact).
- **NDSU–822** *Dual channel unit without additional functions* for supply and state detection of two NAMUR sensors. Output in variant "T" (transistor switch) or "R" (relay contact).
- **NLCU–821** *2-state level regulation unit* by means of two connected limit NAMUR sensors. Output in variant "R" (relay contact).
- **NLCU–822** *2-state level regulation unit with LFD\* system* by means of two connected NAMUR sensors, protection against non-logical states of level sensors. Output in variant "R" (relay contact).

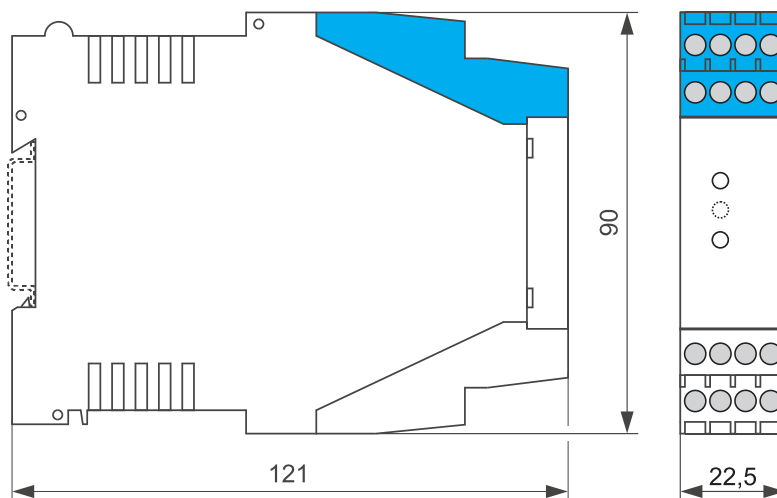
\* LFD – Line Fault Detection (detection of short circuit or line break)

## TECHNICAL SPECIFICATIONS

		<i>NSSU-811</i>	<i>NSSU-812</i>	<i>NDSU-822</i>	<i>NLCU-821</i>	<i>NLCU-822</i>
Number of connectable sensors		1	1	2	2	2
Failure signalization (LFD system)		NO	YES	NO	NO	YES
Nominal supply voltage	Version 230 V Version 24 V	30 ... 230 V AC/DC (+10%) 50 ÷ 60 Hz 10 ... 30 V AC (+10%) 50 ÷ 60 Hz; 10 ... 40 V DC (+10%)				
Nominal power demand (AC / DC)		4 VA / 4 W				
Output open – Circuit voltage		9.2 V DC				
Output current – Treshold		1.55 mA (± 0.1 mA)				
Current limits for LFD system		–	< 0.1 mA > 6 mA	–	–	< 0.1 mA > 6 mA
Allowable short-circuit time in input terminals		Unlimited				
Limit parameters		$U_0 = 10.5 \text{ V}$ ; $I_0 = 10.4 \text{ mA}$ ; $P_0 = 27.3 \text{ mW}$ ; $C_0 = 1.8 \text{ }\mu\text{F}$ ; $L_0 = 150 \text{ mH}$				
Safe isolation voltage $U_m$ (term. 9 - 16)		253 V				
Contact voltage drop (output transistor is closed)		2 V (Variant "T")				
Dynamic parameters * (Triggering / Gap pulse)	Variant "R" Variant "T"	Min. 50 ms Min. 250 $\mu\text{s}$	–	Min. 50 ms Min. 250 $\mu\text{s}$	–	–
Max. switching frequency (Max. load / Without load)	Variant "R" Variant "T"	0.1 Hz / 10 Hz 2 kHz / 2 kHz				
Output characteristic (Variant "R")	Version 230 V Version 24 V	250 V AC / 2 A / 100 VA; 250 V DC / 2 A / 50 W 40 V AC / 2 A / 80 VA; 40 V DC / 2 A / 80 W				
Output characteristic (Variant "T")		40 V / 50 mA	–	40 V / 50 mA	–	–
Relay contact life (Variant "R")		Min. $30 \times 10^6$				
Ambient temperature		-20°C ... +60°C				
Protection		IP20				
Housing material		Polycarbonate				
Material of terminals		CuBe				
Max. conductor size		1 x 2.5 mm <sup>2</sup>				
Isolating voltage (mains terminal / output)		3500 V				
Weight		Approx. 0.2 kg				

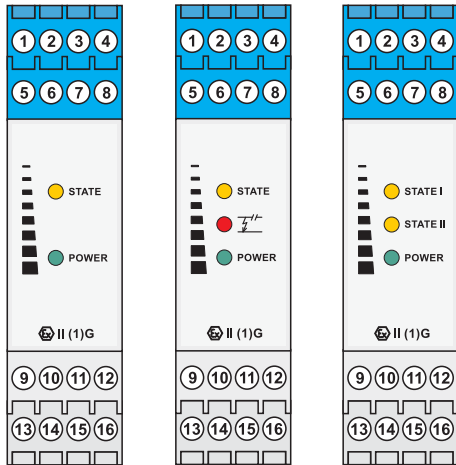
\* Dynamic parameters are valid by connection to contact on input unit (impulse transmitting from gas-meter, etc.)

## DIMENSIONAL DRAWING



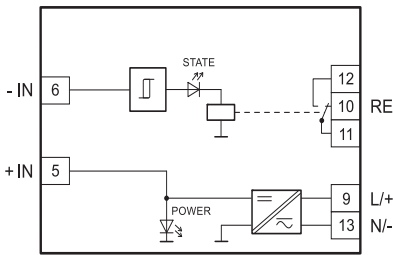
# FRONT PANEL AND TERMINAL BLOCK

NSSU-811      NSSU-812  
NLCU-821      NLCU-822      NDSU-822



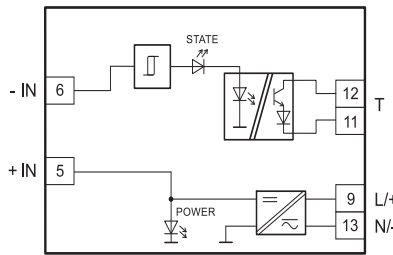
	NSSU-811	NSSU-812	NDSU-822	NLCU-821	NLCU-822
1					
2					
3					
4					
5	+ IN	+ IN	+ IN1	+ IN <sub>min</sub>	+ IN <sub>min</sub>
6	- IN	- IN	- IN1	- IN <sub>min</sub>	- IN <sub>min</sub>
7			+ IN2	+ IN <sub>max</sub>	+ IN <sub>max</sub>
8			- IN2	- IN <sub>max</sub>	- IN <sub>max</sub>
9	L / +	L / +	L / +	L / +	L / +
10	RE	RE	RE1	RE	RE
11	RE / T	RE	RE1 / T1	RE	RE
12	RE / T	RE	RE1 / T1	RE	RE
13	N / -	N / -	N / -	N / -	N / -
14		RE AL	RE2		RE AL
15		RE AL	RE2 / T2		RE AL
16		RE AL	RE2 / T2		RE AL

## BLOCK DIAGRAMS



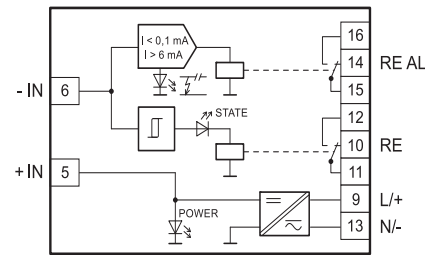
NSSU-811 (var. "R")

- IN Blue wire of sensor
- + IN Brown wire of sensor
- RE Output relay contacts
- L/+ Power supply (AC/DC)
- N/- Power supply (AC/DC)



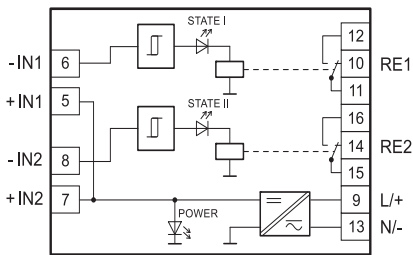
NSSU-811 (var. "T")

- IN Blue wire of sensor
- + IN Brown wire of sensor
- T Contacts of transistor switch
- L/+ Power supply (AC/DC)
- N/- Power supply (AC/DC)



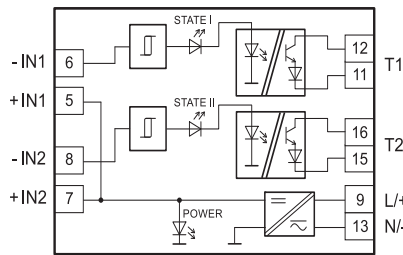
NSSU-812

- IN Blue wire of sensor
- + IN Brown wire of sensor
- RE AL Signalization relay contacts (Alarm)
- RE Output relay contacts
- L/+ Power supply (AC/DC)
- N/- Power supply (AC/DC)



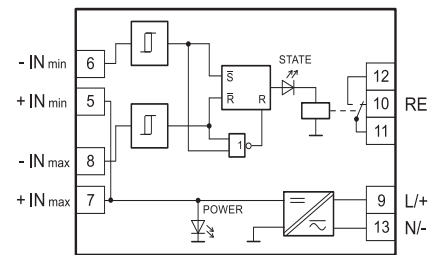
NDSU-822 (var. "R")

- IN1 Blue wire of sensor No.1
- + IN1 Brown wire of sensor No.1
- IN2 Blue wire of sensor No.2
- + IN2 Brown wire of sensor No.2
- RE1 Contacts of transistor switch No.1
- RE2 Contacts of transistor switch No.2
- L/+ Power supply (AC/DC)
- N/- Power supply (AC/DC)



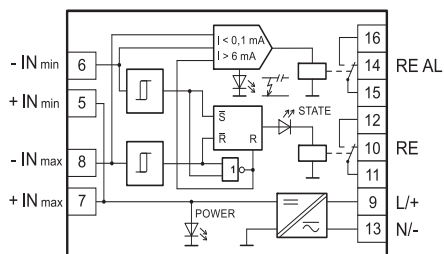
NDSU-822 (var. "T")

- IN1 Blue wire of sensor No.1
- + IN1 Brown wire of sensor No.1
- IN2 Blue wire of sensor No.2
- + IN2 Brown wire of sensor No.2
- T1 Contacts of transistor switch No.1
- T2 Contacts of transistor switch No.2
- L/+ Power supply (AC/DC)
- N/- Power supply (AC/DC)



NLCU-821


- IN<sub>min</sub> Blue wire of sensor No.1 (RO)
- + IN<sub>min</sub> Brown wire of sensor No.1 (RO)
- IN<sub>max</sub> Blue wire of sensor No.2 (RC)
- + IN<sub>max</sub> Brown wire of sensor No.2 (RC)
- RE Output relay contacts
- L/+ Power supply (AC/DC)
- N/- Power supply (AC/DC)



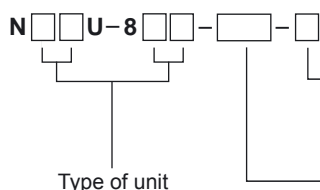
NLCU-822

- **IN1** Blue wire of sensor No.1 (RO)
- + **IN1** Brown wire of sensor No.1 (RO)
- **IN2** Blue wire of sensor No.2 (RC)
- + **IN2** Brown wire of sensor No.2 (RC)
- RE AL** Signalization relay contacts (Alarm)
- RE** Output relay contacts
- L/+** Power supply (AC/DC)
- N/-** Power supply (AC/DC)

## STATUS SIGNALIZATION AND FAILURE ALARM

LED indicators	Color	Function
<b>STATE I, II</b>	Orange	<b>Shines</b> - Sensor is activated and output relay (transistor) is closed. <b>Dark</b> - Sensor is not activated and output relay (transistor) is in open state.
	Red	<b>Shines</b> - Line short circuit of failure of the sensor (NLCU-822 further non-logical combination of connected sensors) <b>Dark</b> - Line and combination of inputs respectively are OK (NSSU-812, NLCU-822)
<b>POWER</b>	Green	<b>Shines</b> - Device connected to supply voltage, correct function <b>Dark</b> - Power loss or internal failure

## ORDER CODE



- Option: **R** - Relay contacts  
**T** - Transistor switch  
(only for NSSU-811 and NDSU-822)
- Supply voltage: **230 V** - 30 ÷ 230 V AC/DC  
**24 V** - 10 ÷ 30 V AC (10 ÷ 40 VDC)

## CORRECT SPECIFICATION EXAMPLES

NSSU-811-230V-T  
NSSU-812-230V-R

NDSU-822-24V-T  
NDSU-822-230V-R

NLCU-821-230V-R  
NLCU-822-24V-R

## SAFETY, PROTECTION, COMPATIBILITY AND EXPLOSION PROOF

Connection to the supply line can be realised only through a fuse or a circuit breaker (max. 16 A). NSSU-811-T and NSSU-812-T units (with transistor switch) are equipped with protection against reverse polarity and current overload output terminals.

Working areas according to EN 60079-10 without risk of explosion, or in the flameproof enclosure "d".

Electrical equipment of protection class II. Electrical safety according to EN 61010-1. Electromagnetic compatibility according to EN 55022, EN 61000-6-2, EN 61000-4-2,-3, -4, -5, -6 and -11. The intrinsic safety of input terminals of the unit according to EN 60079-0 and EN 60079-11. Explosion proof of Intrinsically safe supply units examined by FTZÚ-AO 210 Ostrava-Radvanice, certificate No.: FTZÚ 04 ATEX 0136X.