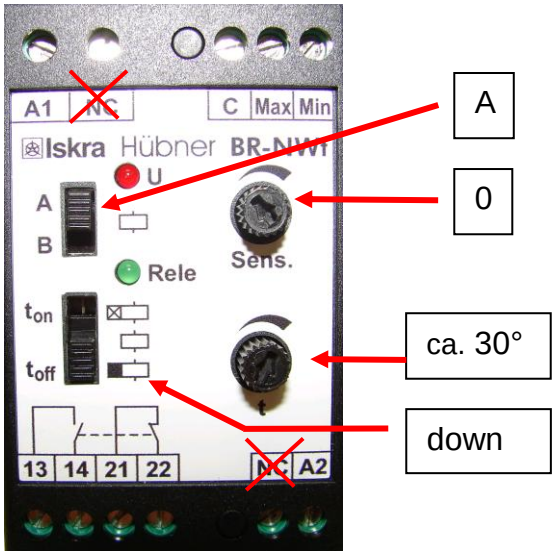
1. INTENDED USE

The limit contact relay BR-NWt is intended to control the WITT maximum level switch NGX.

2. TECHNICAL DATA BR-NWt

Voltage:	see nameplate
Allowable deviation:	-20% / +10%
Frequency:	50 … 60 Hz
Power consumption:	< 3 VA
Measuring circuit voltage:	< 16 VAC
Measuring circuit current:	9 mA
Contact rating, max.:	250 VAC / 8 A
Operation mode:	A = operating mode (B = reversion not allowed!)
Allowable temperature range:	-20 °C to +55 °C
Allowable relative humidity:	0 bis 90%
Operating delay:	von 100 ms bis 10 s
Top red LED:	power supply o.k.
Bottom green LED:	relay working
Housing protection:	IP 10
Dimensions:	ca. 75 x 45 x 110 mm
Weight:	ca. 0,26 kg
Classification per IEC 61508	SIL 1

Settings



3. DESCRIPTION OF OPERATION

Upon first start-up the BR-NWt [F3] should be set with contact [S4] in the basic position. In a sequence contacts 13 / 14 will close and auxiliary contactor K3A will be activated. When contacts 13 / 14 and 43 / 44 of the auxiliary contactor K3A are closed this will release reed-switch [S5] and the compressor.
When the level in the vessel reaches the maximum allowable value and the NGX float inside lifts up, **contacts 13 / 14** of the BR-NWt [F3] will **open** and **switch off** auxiliary contactor K3A and **the compressor**. **Closing contacts 21 / 22** of the auxiliary contactor K3A will **activate an alarm** (see wiring diagram, alternative 1.)
Alternatively to using contacts 21 / 22 of the auxiliary contactor K3A, it is also possible to wire up contacts 21 / 22 of the BR-NWt [F3] to activate an alarm signal (see wiring diagram alternative 2)

Upon each activation of an alarm, it is necessary to reset the BR-NWt [F3] in the basic position. The compressor can only be started when the BR-NWt is in the basic position.

Optional: contact [K]
Contact [K] can be used in addition to the contact „failure acknowledgement" [S4], e.g., to wire into the SPS control. The limit control relay BR-NWt [F3] can then be reset into the basic position with the contact [K] instead of contact [S4]

4. TRANSPORT AND STORAGE

The BR-NWt should be stored and transported clean and dry at any time and it should be protected against any damages.

5. INSTALLATION

The BR-NWt should be installed in a control cabinet in such a way that LEDs and potentiometer are accessible.
For proper installation use mounting rail/top hat rail TS35 (EN50022). The BR-NWt can be installed in any position.
In addition to the limit contact relay BR-NWt you will need an auxiliary contactor and a reset button.
Furthermore, it is recommended to install a fault-indication in the cabinet.

Any wiring has to be executed according to the following wiring diagram

The required power supply voltage is indicated on the name plate! Standard is 240 V, optional 110V execution is also available.

All electrical connections must we executed by a certified electrician familiar with the system, who is familiar with the standards and local regulations, e.g., BGV A2 (VBG 4), VDE 0100, VDE 0113 (EN 60204 T1), and VDE 0660 T5 (EN 60439 T1) or equivalent.

6. START UP / OPERATION

Set the switch on the top left side in position A for normal operation and push the switch underneath down for switching off delay. The required delay time can be set by turning the bottom potentiometer [t] to a value between 0.1 and 10 sec. Setting a delay time will make sure the maximum level switch is not activated by external vibration or other interferences. From experience a delay time of 3 sec has proven good practice, which is equivalent to a 30° turn to the right of the bottom potentiometer.
The top potentiometer [sens] must be in position 0 [to the very left].
LEDs U and Rele will light up, when the installation has been successful.

7. ADDITIONAL REQUIRED ELECTRICAL EQUIPMENT

that are not included in the scope of delivery

According to the wiring diagram (see following page 3) it is recommended to use the additional following electrical equipment (specification according to IEC/EN 60947-5-1):

• **Auxiliary contactor**	**K3A**	230/240 V; 50-60 Hz; ACIe=4A
• **Non holding contact**	**K..**	e.g. potential free contact SPS
• **Reset-button**	**S4**	AC 230V, 6A; DC 24V, 3A
• **Indicator light**	**H6**	230/240 V; 50-60 Hz; 5 - 15 mA

8. Electrical wiring diagram BR-NWt