

TECHNICAL REFERENCE-MANUAL
BINARY SIGNAL SEPARATOR
Type DKS-35



1. APPLICABILITY

The DKS-35 Separator provides optoelectronic separation for a group of eight on-off type signals. Both inputs and outputs have one common line. Various versions are available depending on input signal levels and common line arrangements.

The DKS-35 used in automation systems may replace output separation relays in system-to-system and component-to-component interconnections.

2. DELIVERY KIT

The unit comes together with:

- Technical Reference Manual; the number of copies as specified in the order.
- Guarantee Card.

3. CONSTRUCTION

The DKS-35 Separator is designed to be installed on standard "omega-35" rails where it occupies 76 mm long space approximately. The unit is provided with 10 input terminals: including 1X through 8X and common lines N1, N2 on one side and 10 output terminals: 1Y through 8Y and two common lines C1, C2 on the opposite side. Eight LEDs placed between the terminals indicate when individual paths are turned on. Terminals and electronic components are mounted on a PCB. Connections and electronic elements are housed in an insulation cover. Identification information may be placed on the face of upper mounting component of the unit.

4. SPECIFICATIONS

4.1. Number of separation paths

8

4.2. Inputs

- nominal input signal (U_n)

5, 12, 24, 48, 60, 110, 220V DC
(depending on the version)

- current consumption by input circuit at U_n

1 mA, +/- 20% - for $U_n = 5 \dots 220V$
or 5 mA, +/- 20% - for $U_n = 5 \dots 60V$
(as ordered)

- input signal logic levels

high level („on”)

> 70% U_n

low level („off”)

< 20% U_n

4.3. Outputs

- type of outputs

Darlington transistors' OC

- max. voltage in output circuit

< 80V or < 200V

(as ordered)

- output circuit load

< 10 mA

- line control resistor

resistance as ordered

4.4. Separation of input-output circuits

- separation type

optoelectronic

- insulation class

2000 V RMS

4.5. Operating conditions

- ambient temperature

0 - 70°C

- relative humidity

< 75 %

- sinusoidal vibrations

10 - 55 Hz / 0.15 mm

- external magnetic fields

0 - 400 A/m

- interference emission

level N

4.6. Cross-section of connectable conductors

0.08 – 2.5 mm²

4.7. Dimensions

76 x 45 x 42 mm

5. OPERATION

The DKS-35 supports 8 separation paths. Input voltages are applied to transistors which transfer the signals to output side in paired relations: 1X input to 1Y output, 2X input to 2Y output, etc. Terminals N1, N2 are common pole for inputs whereas C1, C2- the common for outputs. Inputs and outputs are protected by PTC thermistors which resistance during normal operation is matched to the signal level. Circuit diagrams of various versions of separators are shown in attached drawing.

6. INSTALLATION AND OPERATION

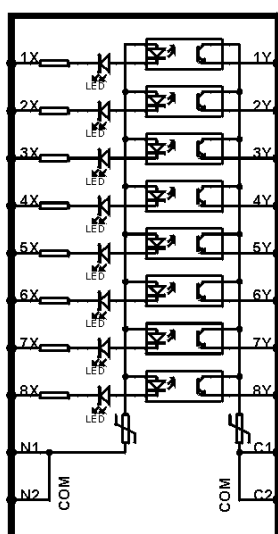
The DKS-35 separators are installed on standard „Omega-35” rails. The rails shall be placed in mounting cabinets or boxes.

The maximum cross-section area of connected conductors is 2.5 mm². Available area on the unit may receive identification information.

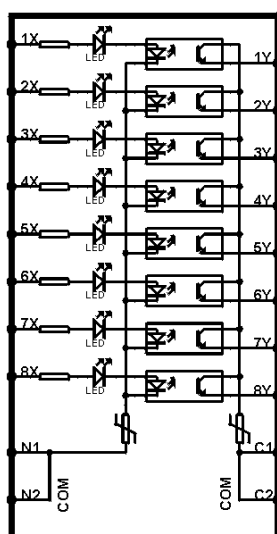
7. VERSIONS

DKS-35.	x	x	.	x	x	x	.	x	/	xxx
Output circuits:										
common „+”	1									
common „-”	2									
Input circuits:										
common „+”		1								
common „-”		2								
Type of input current:										
DC				1						
Input voltage:										
5V					1					
12V					2					
24V					3					
48V					4					
60V					5					
110V					6					
220V					7					
special version					0					
Input circuit current:										
1 mA						1				
5 mA						2				
Outputs:										
U _{ce} < 200V DC								1		
U _{ce} < 80V DC								2		
Line control resistance in output circuit (option)										
as ordered										
typical value										47kΩ

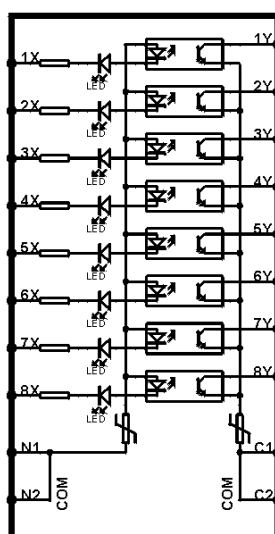
8. FUNCTIONAL DIAGRAMS



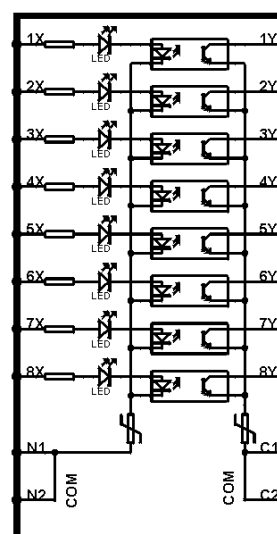
TYPE DKS-35-11-xxx-x



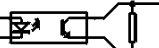
TYPE DKS-35-12-xxx-x



TYPE DKS-35-21-xxx-x



TYPE DKS-35-22-xxx-x

OPTION  Line control resistor
Value and mounting as ordered