

**Product KSM 31 R**

Measurements in mm (h.x.d.x.w): 100x115x90



**Description**

Digital I/O expansion for the KSM10/11/12 and the KSM100 series. The module will be connected to the basic module via the Back-Plane-Connector by just clicking it in.

The expansion module provides 2 safe I/O's, which could be selectively configured as an input or an output. Additional 12 safe inputs and 2 messaging outputs, as well as 8 safe relay outputs.

- 2 safe I/O's configurable as input or output, 8 safe relay outputs, 12 safe inputs thereof 8 OSSD compatible, 2 messaging outputs
- Short circuit monitoring
- Multiplexing of contacts or contact amplification via external contactors in connection with internal monitoring

**Technical data**

Safety characteristics		
PI in accordance to EN 13849	PI e	
PFH/Architecture	Typ. 6,0 * 10 <sup>-9</sup> /Architecture Class 4	
SIL in accordance to EN 61508	SIL 3	
Proof-test-interval	20 years = max. period of application	
General data		
Safe digital input lines	12 incl. 8 OSSD	
Safe digital I/O lines	2	
Safe digital output lines	-	
Safe analog-In	-	
Safe relay outputs	4	
Standard output lines	2	
Pulse output lines (cross-short-cut detection)	2	
Type of connectors	Pluggable terminals	
Electrical data		
Power consumption	Max. 3,8 W	
Rated data digital In	24 VDC; 20 mA, Typ1 nach EN61131-2	
Rated data digital Out	24 VDC; 250 mA	
Pulse output lines (cross-short-cut detection)	Max. 250 mA	
Environmental data		
Temperature	0° up to 50° operational temp.; -10° up to +70° storage temp.	
Protection rating	IP 52	
Climate class	3 in accordance to DIN 50 178	
EMI	According to EN 55011 and EN 61000-6-2	
Mechanical data		
Size (h.d.x.w [mm])	100x115x90	
Weight	300 g	
Mounting	Snap-on mounting on standard head rail	
Max. terminal cross-section	1,5 mm <sup>2</sup>	

**Pin Out - terminal diagram**

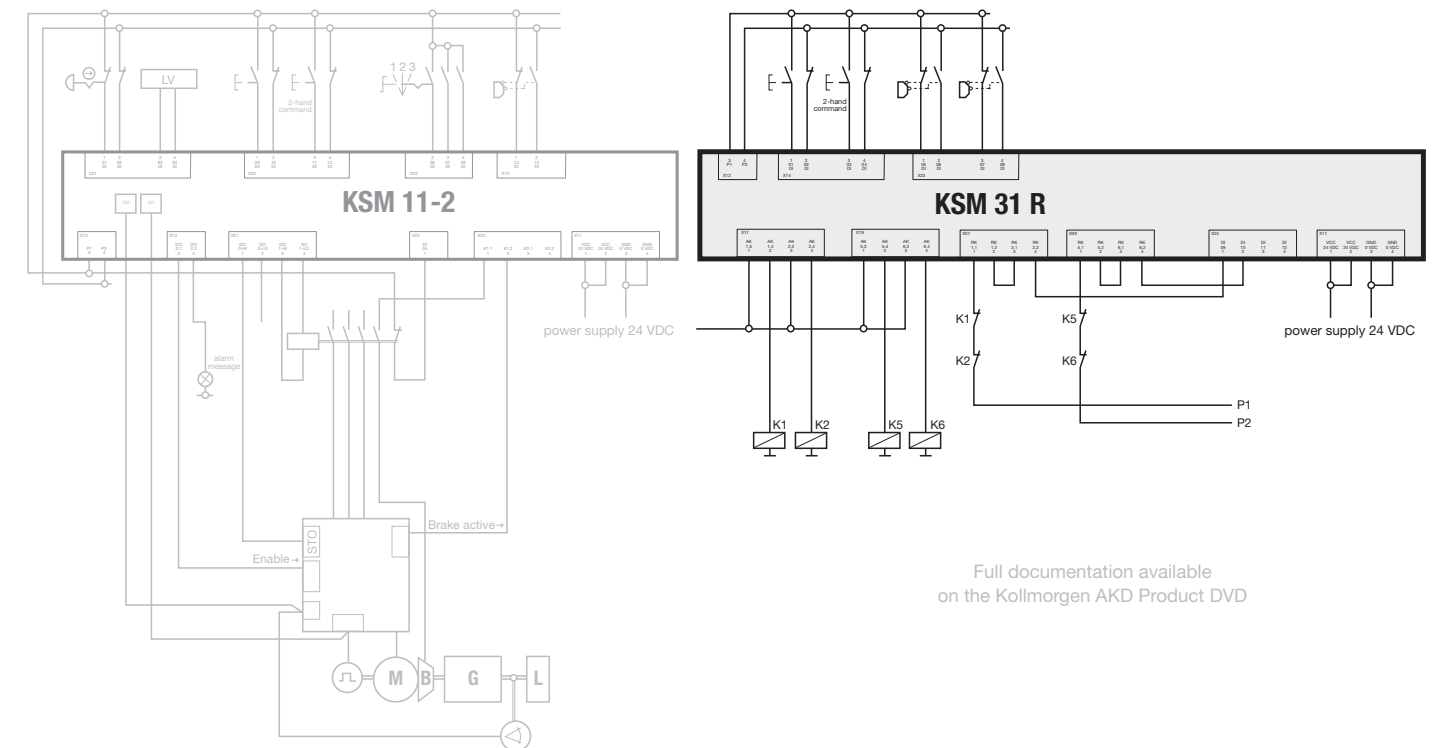
<b>X 7</b>	1 - K1/11 2 - K1/12 3 - K2/11 4 - K2/12	feedback contact relay 1 feedback contact relay 2
<b>X 8</b>	1 - K3/11 2 - K3/12 3 - K4/11 4 - K4/12	feedback contact relay 3 feedback contact relay 4
<b>X 17</b>	1 - K1.1 2 - K1.2 3 - K2.1 4 - K2.2	relay output 1 relay output 2
<b>X 18</b>	1 - K3.1 2 - K3.2 3 - K4.1 4 - K4.2	relay output 3 relay output 4
<b>X 13</b>	1 - NC 2 - NC 3 - OUT1 4 - OUT2	NC NC messaging and auxiliary output messaging and auxiliary output
<b>X 14</b>	1 - DI 01 (OSSD) 2 - DI 02 (OSSD) 3 - DI 03 (OSSD) 4 - DI 04 (OSSD)	digital IN digital IN digital IN digital IN
<b>X 23</b>	1 - DI 05 2 - DI 06 3 - DI 07 4 - DI 08	digital IN digital IN digital IN digital IN
<b>X 24</b>	1 - DI 09 (OSSD) 2 - DI 10 (OSSD) 3 - DI 11 (OSSD) 4 - DI 12 (OSSD)	digital IN digital IN digital IN digital IN
<b>X 9</b>	1 - K5/11 2 - K5/12 3 - K6/11 4 - K6/12	feedback contact relay 5 feedback contact relay 6
<b>X 10</b>	1 - K7/11 2 - K7/12 3 - K8/11 4 - K8/12	feedback contact relay 7 feedback contact relay 8
<b>X 19</b>	1 - K5.1 2 - K5.2 3 - K6.1 4 - K6.2	relay output 5 relay output 6
<b>X 20</b>	1 - K7.1 2 - K7.2 3 - K8.1 4 - K8.2	relay output 7 relay output 8
<b>X 11</b>	1 - U24 extern 2 - U24 extern 3 - GND extern 4 - GND extern	powersupply module +24 VDC powersupply module +24 VDC powersupply module 0 VDC powersupply module 0 VDC
<b>X 12</b>	1 - IO 01 2 - IO 02 3 - P 1 4 - P 2	digital I/O 1 digital I/O 2 pulse output 1 pulse output 2
<b>X 21</b>	1 - NC 2 - NC 3 - NC 4 - NC	NC NC NC NC
<b>X 22</b>	1 - NC 2 - NC 3 - NC 4 - NC	NC NC NC NC

\*The variable encoder power supply has to be provided external. It will be internal monitored.

**KSM 31 R - I/O overview**

Quantity	I/O's
4	digital inputs
8	digital inputs (OSSD)
2	digital outputs/inputs I/O
8	relay outputs
2	pulse outputs
2	messaging outputs

**KSM 31 R - sketch (example)**



Full documentation available on the Kollmorgen AKD Product DVD