

Product KSM 100-2-PN

Measurements in mm (h x d x w): 100 x 115 x 135

Description

Open programmable safe PLC for machinery and plant construction. The modules can be enhanced up to 130 safe I/O's and / or up to 12 axes. The basic module KSM100-2-PN supplies 20 safe I/O's, 14 safe inputs and 3 safe cut off channels as well as a memory card slot for easy program and configuration change. option: fieldbus interface can be integrated.

The continuous function chart oriented programming frame SafePLC allows an easy and comfortable implementation of safety related tasks. The firmware of modules offers an comprehensive library for standard functions for safe signal preprocessing of safety related sensors and actors as well as for practical technology functions especially for safe motion of drives.

The spectrum of the modules reaches from conventional safe logic processing through simple safe speed monitoring tasks of single axes up to complex safe more dimensional speed- and range / zone monitoring in multiple axes processing.

The PROFINET communication device used to exchange non safe data between KSM modular device and non-safe control systems. The configuration of the non-safe data via SafePLC of modular device. The device must be parameterized as a PROFINET slave device.

- 20 safe I/O's configurable as input or output, 14 safe inputs, 3 cut off channels, thereof 1 safe relay output and 2 messaging outputs in the basic module
- Expandable up to 130 safe I/O's, and / or 12 safe axes via backplane bus (connectors to snap on head rail)
- Integrated fieldbus interface (PROFINET)
- CFC oriented programming with SafePLC - Software
- Comprehensive library with pre-configured safety related sensors and actors
- Complete speed- and position-oriented safety functions for safe motion according to EN 61800-5-2
- Dimensional functions for safe speed- and range / zone monitoring possible
- Parameter administration for expansion modules in the basic module
- Cross circuit monitoring
- Comprehensive diagnostics integrated in firmware
- Coded status display using a 7-segment display and LED's mounted in the front side
- Quit-/Start-/Reset- button in front side

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	Max. number of extension modules	6
	Interface for extension modules	T-bus-connector (compact assembly) / KSM 51 bus extension module (decentralize assembly)
	Safe digital input lines	14 incl. 8 OSSD
	Safe digital I/O lines	20
	Safe digital output lines	2
	Safe analog-In	-
	Safe relay outputs	1
	Standard output lines	6
	Pulse output lines (cross-short-cut detection)	2
	Type of connectors	Pluggable terminals
Data Interface	PROFINET	100MBit/s in full-duplex mode
Electrical data	Supply voltage	24 VDC/2A
	Tolerance	-15%, +20%
	Power consumption	Max. 3,2 W
	Rated data digital In	24 VDC; 20 mA, Typ1 in accordance to EN61131-2
	Rated data digital Out	24 VDC; 250 mA
	Rated data relay output	24 VDC/2A and 230 VAC/2A
	Pulse output lines (cross-short-cut detection)	Max. 250 mA
	Max. fuse on supply voltage	Max. 2 A
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 x d x w) (mm)	100 x 115 x 135
	Weight	800 g
	Mounting	Snap-on mounting on standard head rail
	Max. terminal cross-section	1,5 mm <sup>2</sup>

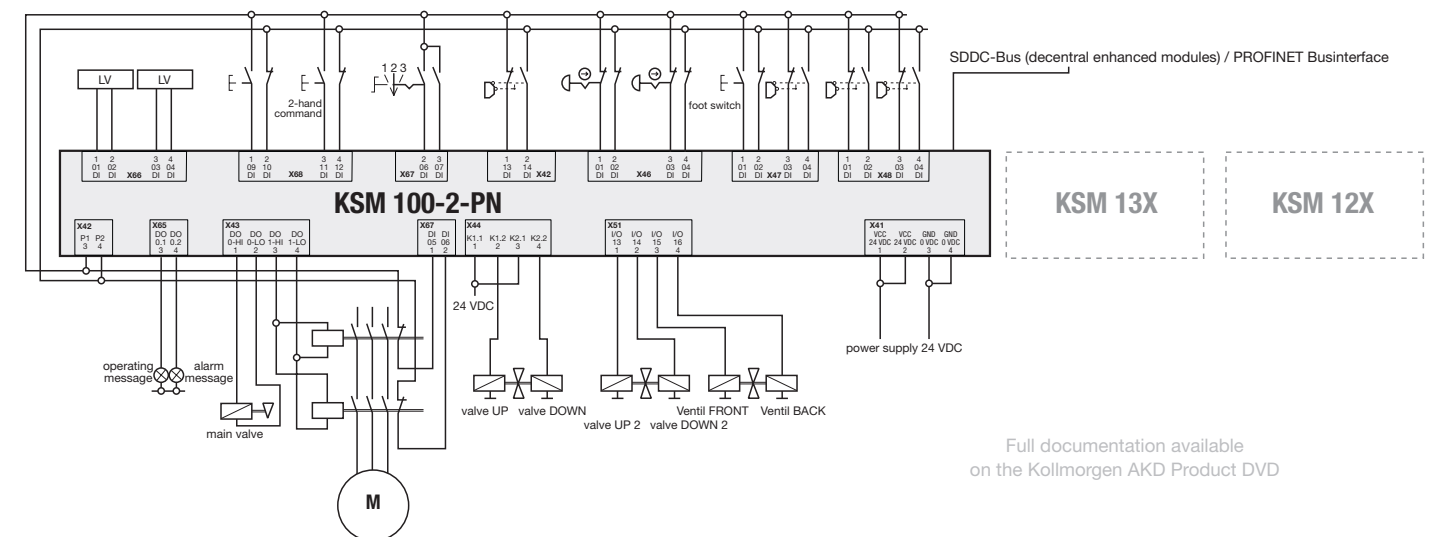
Pin Out - terminal diagram

<b>X 41</b>	1 - U24 external powersupply module +24 Volts 2 - U24 external powersupply module +24 Volts 3 - GND external powersupply module 0 VDC 4 - GND external powersupply module 0 VDC
<b>X 42</b>	1 - DI 13 digital IN 13 2 - DI 14 digital IN 14 3 - P1 pulse output P1 4 - P2 pulse output P2
<b>X 43</b>	1 - DO 0 - HI HISIDE-output 0 2 - DO 0 - LO LOSIDE-output 0 3 - DO 1 - HI HISIDE-output 1 4 - DO 1 - LO LOSIDE-output 1
<b>X 44</b>	1 - K1.1 relay output 1 2 - K1.2 relay output 1 3 - K2.1 relay output 2 4 - K2.2 relay output 2
<b>X 45</b>	1 - U24 external powersupply module +24 Volts 2 - U24 external powersupply module +24 Volts 3 - GND external powersupply module 0 VDC 4 - GND external powersupply module 0 VDC
<b>X 46</b>	1 - IO 01 digital I/O 1 2 - IO 02 digital I/O 2 3 - DO 03 messaging and auxiliary output 3 4 - DO 04 messaging and auxiliary output 4
<b>X 47</b>	1 - IO 03 digital I/O 3 2 - IO 04 digital I/O 4 1 - IO 05 digital I/O 5 2 - IO 06 digital I/O 6 1 - IO 07 digital I/O 7 2 - IO 08 digital I/O 8 1 - IO 09 digital I/O 9 2 - IO 10 digital I/O 10
<b>X 48</b>	1 - IO 03 digital I/O 3 2 - IO 04 digital I/O 4 1 - IO 05 digital I/O 5 2 - IO 06 digital I/O 6 1 - IO 07 digital I/O 7 2 - IO 08 digital I/O 8 1 - IO 09 digital I/O 9 2 - IO 10 digital I/O 10
<b>X 49</b>	1 - U24 external powersupply module +24 Volts 2 - U24 external powersupply module +24 Volts 3 - GND external powersupply module 0 VDC 4 - GND external powersupply module 0 VDC
<b>X 50</b>	1 - IO 11 digital I/O 11 2 - IO 12 digital I/O 12 3 - DO 05 messaging and auxiliary output 5 4 - DO 06 messaging and auxiliary output 6
<b>X 51</b>	1 - IO 13 digital I/O 13 2 - IO 14 digital I/O 14 1 - IO 15 digital I/O 15 2 - IO 16 digital I/O 16 1 - IO 17 digital I/O 17 2 - IO 18 digital I/O 18 1 - IO 19 digital I/O 19 2 - IO 20 digital I/O 20
<b>X 52</b>	1 - IO 13 digital I/O 13 2 - IO 14 digital I/O 14 1 - IO 15 digital I/O 15 2 - IO 16 digital I/O 16 1 - IO 17 digital I/O 17 2 - IO 18 digital I/O 18 1 - IO 19 digital I/O 19 2 - IO 20 digital I/O 20
<b>X 61</b>	1 - U24 external powersupply module +24 Volts 2 - U24 external powersupply module +24 Volts 3 - U24 external powersupply module 0 VDC 4 - U24 external powersupply module 0 VDC
<b>X 62</b>	1 - NC NC 2 - NC NC 3 - NC NC 4 - NC NC
<b>X 63</b>	1 - NC NC 2 - NC NC 3 - NC NC 4 - NC NC
<b>X 64</b>	1 - NC NC 2 - NC NC 3 - NC NC 4 - NC NC
<b>X 65</b>	1 - NC NC 2 - NC NC 3 - DO 0.1 messaging and auxiliary output 1 4 - DO 0.2 messaging and auxiliary output 2
<b>X 66</b>	1 - DI01 digital IN 01 OSSD compatible 2 - DI02 digital IN 02 OSSD compatible 3 - DI03 digital IN 03 OSSD compatible 4 - DI04 digital IN 04 OSSD compatible
<b>X 67</b>	1 - DI05 digital IN 05 2 - DI06 digital IN 06 3 - DI07 digital IN 07 4 - DI08 digital IN 08 1 - DI09 digital IN 09 OSSD compatible 2 - DI10 digital IN 10 OSSD compatible 3 - DI11 digital IN 11 OSSD compatible 4 - DI12 digital IN 12 OSSD compatible
<b>X 68</b>	1 - DI05 digital IN 05 2 - DI06 digital IN 06 3 - DI07 digital IN 07 4 - DI08 digital IN 08 1 - DI09 digital IN 09 OSSD compatible 2 - DI10 digital IN 10 OSSD compatible 3 - DI11 digital IN 11 OSSD compatible 4 - DI12 digital IN 12 OSSD compatible

KSM 100-2-PN - I/O overview

Quantity	I/O's
14	digital inputs
20	digital inputs/outputs
2	pulse outputs
2	digital outputs relays
2	digital outputs LOSIDE
2	digital outputs HISIDE
6	messaging outputs
1	memory card
1	PROFINET

KSM 100-2-PN - sketch (example)



Full documentation available on the Kollmorgen AKD Product DVD