

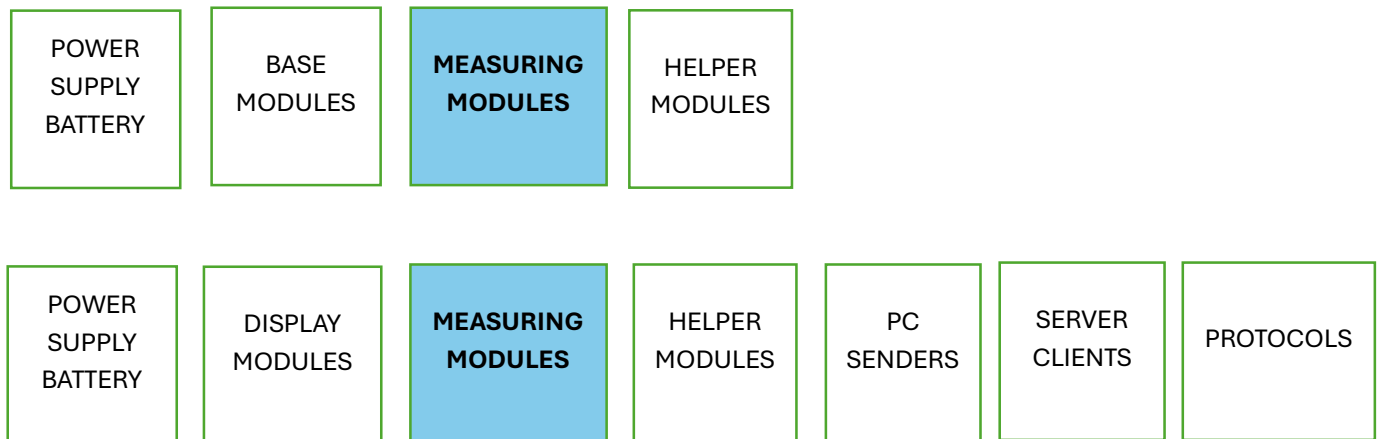


AX Modular

Technical Manual

400

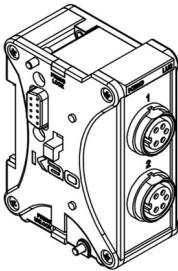
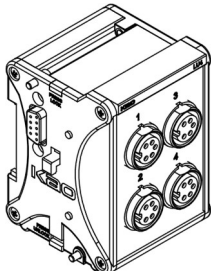
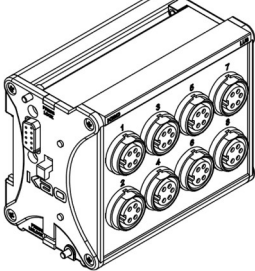
Measuring Modules





Inductive measuring modules for Half Bridge (HB) LVDT probes

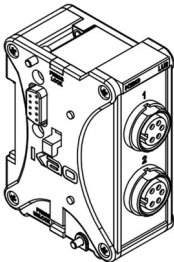
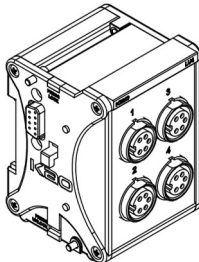
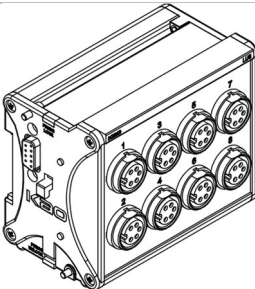
Technical Specifications

Code	LH2	LH4	LH8
			
Description	2 Channel inductive measuring module	4 Channel inductive measuring module	8 Channel inductive measuring module
Article Nr.	400.002	400.004	400.008
Supported inductive Probes	3 Wire Half bridge TESA and compatable		
Resolution	24 Bit		
Measuring Range	$\pm 30\text{mm } 1\mu\text{m}$ $\pm 3\text{mm } 0.1\mu\text{m}$ $\pm 1.5\text{mm } 0.05\mu\text{m}$		
Measuring Rate	1500 Samples/sec		
Operating voltage	5V		
Operating current	20mA	30mA	40mA
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		



Inductive measuring modules for Half Bridge(HB) ,4 and 5 wire LVDT probes user selectable

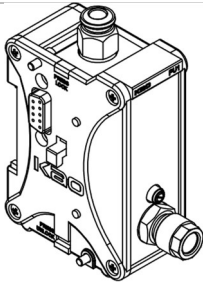
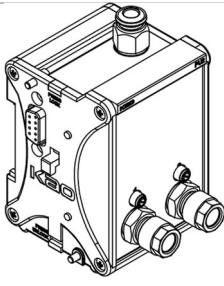
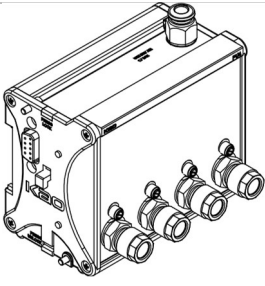
Technical Specifications

Code	LX2	LX4	LX8
			
Description	2 Channel inductive measuring module	4 Channel inductive measuring module	8 Channel inductive measuring module
Article Nr.	400.0X2	400.0X4	400.0X8
Supported inductive Probes	Probes other than TESA and TESA compatible 4 Wire ,5 Wire on request		
Resolution	24 Bit		
Measuring Range	$\pm 30\text{mm } 1\mu\text{m}$ $\pm 3\text{mm } 0.1\mu\text{m}$ $\pm 1.5\text{mm } 0.05\mu\text{m}$		
Measuring Rate	1500 Samples/sec		
Operating voltage	5V		
Operating current	20mA	30mA	40mA
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		

AU

Measuring module for pneumatic gage heads

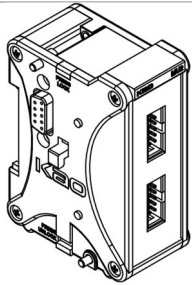
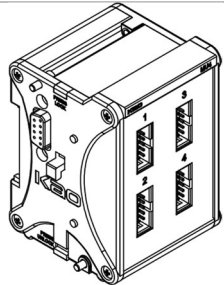
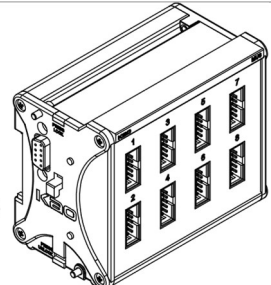
Technical Specifications

Code	AU1	AU2	AU4
			
Description	1 Channel connection module for pneumatic gageheads	2 Channel connection module for pneumatic gageheads	4 Channel connection module for pneumatic gageheads
Article nr.	400.101	400.102	400.104
Supported Gageheads	Gauge heads all manufacturer		
Resolution	24 Bit		
Measuring Range	$\pm 80\mu\text{m}$ Depends gauge head design		
Measuring Rate	1500 Samples/sec		
Module Input Pressure	1.5 Bar .. 1.7 Bar		
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Operating voltage	5V		
Operating current	20mA	30mA	40mA
Drawing			
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		



Interface module Mitutoyo Digimatic Output

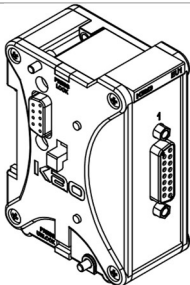
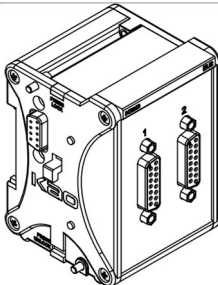
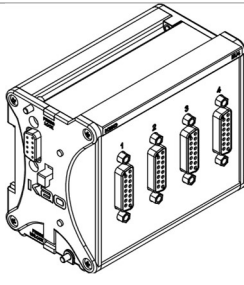
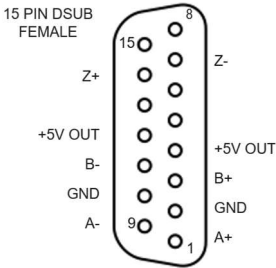
Technical Specifications

Code	MI2	MI4	MI8
			
Description	2 Channel Interface module Mitutoyo Digimatic Output	4 Channel Interface module Mitutoyo Digimatic Output	8 Channel Interface module Mitutoyo Digimatic Output
Article Nr.	400.202	400.204	400.208
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Operating voltage	5V		
Operating current	10mA	15mA	20mA
Drawing			
Weight			
Operating temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		



Interface Module for Incremental TTL Encoders

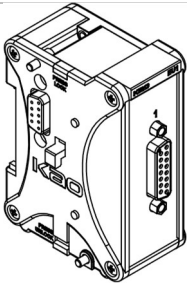
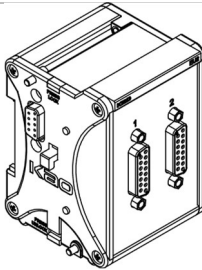
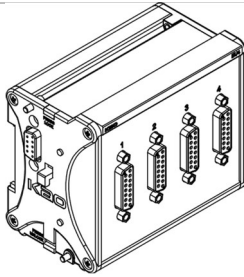
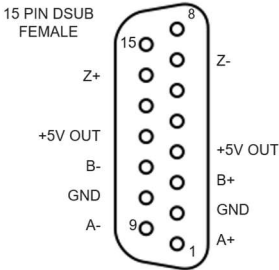
Technical Specifications

Code	ET1	ET2	ET4
			
Description	1 Channel interface module for incremental encoders	2 Channel interface module for incremental encoders	4 Channel interface module for incremental encoders
Article Nr.	400.301	400.302	400.304
Encoder counter	32 Bit		
Operating voltage	5V		
Operating current			
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		
Connection diagram for Each slot			



Interface Module for Incremental and Analog Encoders

Technical Specifications

Code	EX1	EX2	EX4
			
Description	1 Channel interface module for incremental and analog encoders	2 Channel interface module for incremental and analog encoders	4 Channel interface module for incremental and analog encoders
Article Nr.	400.351	400.352	400.354
Resolution	24 Bit .. 32 Bit		
Operating voltage	5V		
Operating current			
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		
Connection diagram for Each slot			

SU

Technical Specifications

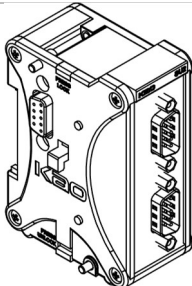
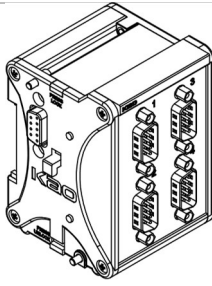
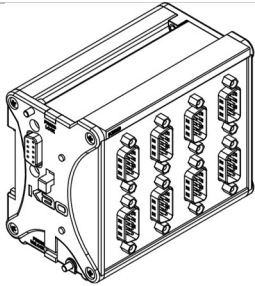
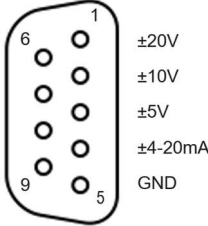
9 PIN DSUB
MALE

DSR	6	1	DCD
RTS			RX
CTS			TX
+5V OUT			DTR
	9	5	GND

ADC

Interface Module for gauges analog voltage or current output

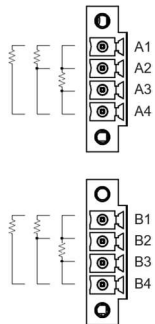
Technical Specifications

Code	ADC2	ADC4	ADC8
			
Description	2 Channel interface module for gauges analog voltage or current output	4 Channel interface module for gauges analog voltage or current output	8 Channel interface module for gauges analog voltage or current output
Article Nr.	400.502	400.504	400.508
Resolution	24 Bit		
Measuring Range	Voltage: $\pm 20V$ on 0.004mV $\pm 10V$ on 0.002mV $\pm 5V$ on 0.001mV Current :4..20mA		
Operating voltage	5V (optional 24V sensor voltage connected power supply input)		
Operating current	10mA	15mA	20mA
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		
Connection diagram for Each Channel	9 PIN DSUB MALE  ±20V ±10V ±5V ±4-20mA GND +24V OUT		

RTD

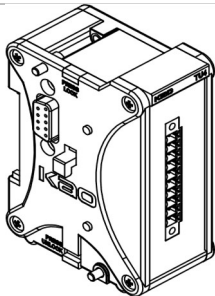
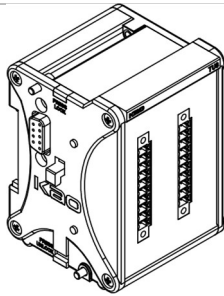
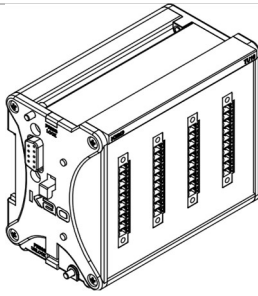
Temperature measuring Module 2,3 or 4 wire RTDs

Technical Specifications

Code	RTD2	RTD4	RTD8
Description	2 Channel temperature measuring module for 2,3 or 4 wire RTDs	4 Channel temperature measuring module for 2,3 or 4 wire RTDs	8 Channel temperature measuring module for 2,3 or 4 wire RTDs
Article Nr.	400.602	400.604	400.608
Supported RTDs	PT10,PT20,PT100,PT200,PT1000 user selectable		
Resolution	24 Bit		
Measuring Range	-200°C .. +850°C		
Operating voltage	5V		
Operating current	12mA	20mA	30mA
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		
Connection diagram for Each slot			

TC

Temperture measuring Module for Thermocouple with cold junction

Code	TC6	TC12	TC24
			
Description	6 Channel temperature measuring module for Thermocouples	12 Channel temperature measuring module for Thermocouples	24 Channel temperature measuring module for Thermocouples
Article Nr.	400.706	400.712	400.724
Supported Thermocouples	Type B , Type E, Type J, Type K , Type N, Type R, Type S, Type T		
Resolution	24 Bit		
Measuring Range	Type B 0°C..1820°C - Type E -270°C..1000°C - Type J -210°C .. 1200°C - Type K -270 °C.. 1372°C - Type N -270°C .. 1300°C - Type R -50°C .. 1768°C -Type S -50°C .. 1768°C - Type T -270°C .. 400°C		
Operating voltage	5V		
Operating current	10mA	20mA	30mA
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 x 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		
Connection diagram for Each slot	 TC1+ TC1- TC2+ TC2- TC3+ TC3- TC4+ TC4- TC5+ TC5- TC6+ TC6-		

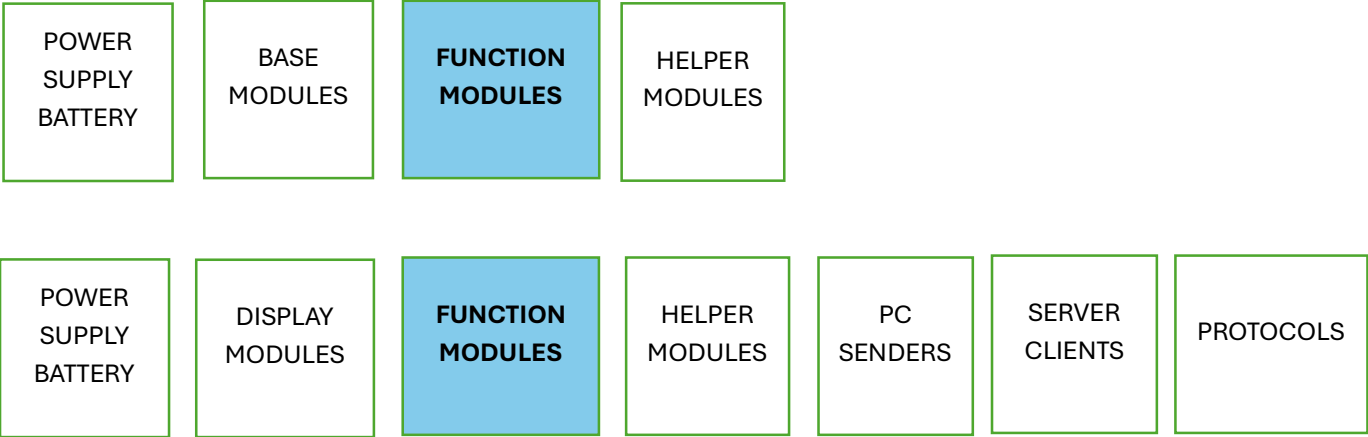


Interface Module Wheatston Bridge output Sensors

Technical Specifications

Code	WB4	WB8	WB16
Description	2 Channel interface module for wheatston bridge output sensors	4 Channel interface module for wheatston bridge output sensors	8 Channel interface module for wheatston bridge output sensors
Article Nr.	400.802	400.804	400.808
Supported wiring	series, parallel		
Resolution	24 Bit		
Measuring Range	Depends on sensor		
Operating voltage	5V		
Operating current	10mA	20mA	30mA
Dimensions w x h x d [mm]	33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 X 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		
Connection diagram for Each slot			

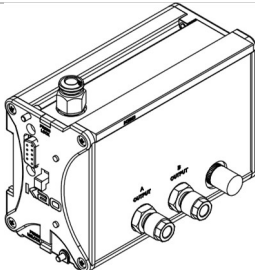
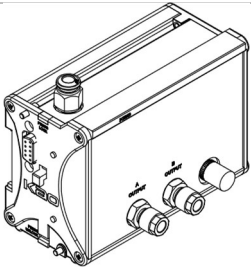
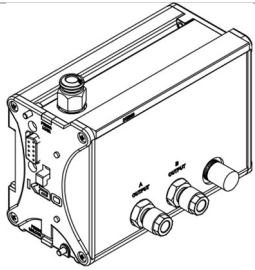
800 Function Modules





Differential Leak Testing Modules

Technical Specifications

Code	LD4	LD10	LD20
			
Description	1 Channel Differential Leaktester module for 4 Bar test pressure	1 Channel Differential Leaktester module for 10 Bar test pressure	1 Channel Differential Leaktester module for 20 Bar test pressure
Article Nr.	800.104	800.110	800.120
Max. Test Pressure	-1 / 4 Bar	-1/10Bar	20Bar
Differential band	±1Kpa		
Resolution	16 Bit		
Operating voltage	5V - 24V		
Operating current			
Dimensions	100 x 86 X 60.4	100 x 86 X 60.4	100 x 86 X 60.4
Drawing	FormA	FormB	FormC
Weight			
Operating Temperature	0 .. 50°C		
Storage Temperature	-20 .. 80°C		



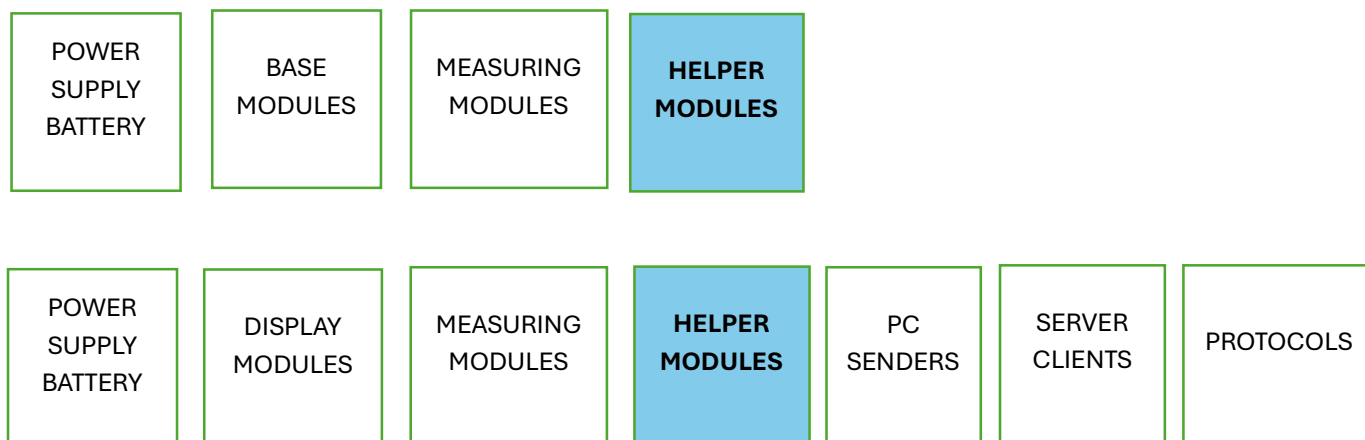
Absolute Leak Testing Modules

Technical Specifications

Code	LA4	LA10
Description	1 Channel Absolute Leaktester module for 4 Bar test pressure	1 Channel Absolute Leaktester module for 10 Bar test pressure
Article Nr.	800.204	800.210
Max. Test Pressure	-1 / 4 Bar	-1/10Bar
Operating voltage	5V - 24V	
Operating current		
Dimensions	100 x 86 X 60.4	100 x 86 X 60.4
Drawing	FormA	FormB
Weight		
Operating Temperature	0 .. 50°C	
Storage Temperature	-20 .. 80°C	

500

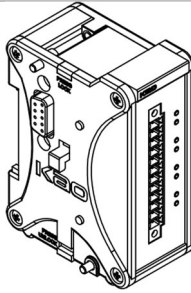
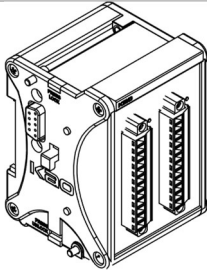
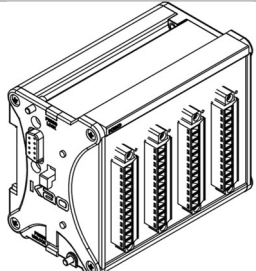
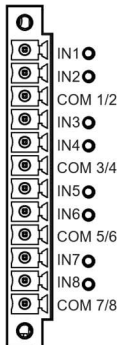
Helper Modules





Galvanic isolated input modules

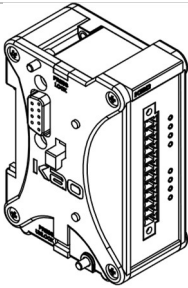
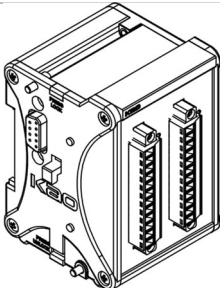
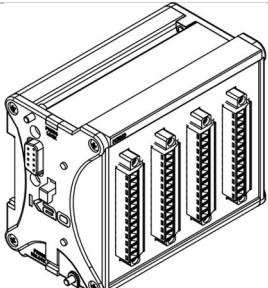
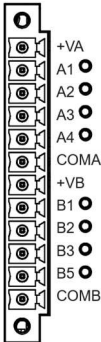
Technical Specifications

Code		IN8	IN16	IN32
				
Description		8 Channel galvanic isolated input module	16 Channel galvanic isolated input module	32 Channel galvanic isolated input module
Article Nr.		500.108	500.116	500.132
Input count		8 (4 x 2)	16 (8 x 2)	32 (16 x 2)
Input voltage	Nominal	24V		
	High	12V .. 30V		
	Low	-30V .. +5V		
	High current	5mA		
	Isolation voltage	5KV		
Operating voltage		5V		
Operating current		10mA	15mA	20mA
Dimensions		33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 X 60.4
Drawing		FormA	FormB	FormC
Weight				
Operating Temperature		0 .. 50°C		
Storage Temperature		-20 .. 80°C		
Connection diagram for each slot				

OUT

Galvanic isolated output modules

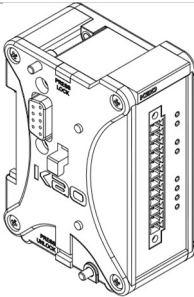
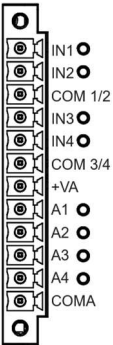
Technical Specifications

Code		OUT8	OUT16	OUT32
				
Description		8 Channel galvanic isolated output module	16 Channel galvanic isolated output module	32 Channel galvanic isolated output module
Output count		8 (4 x 2)	16 (8 x 2)	32 (16 x 2)
Article Nr.		500.208	500.216	500.232
Output	Supply voltage	10 .. 30V		
	Current	1A (per channel)		
	Isolation	3750 Vrms(min)		
Operating voltage		5V		
Operating current		10mA	15mA	20mA
Dimensions		33 x 86 x 60.4	58 x 86 x 60.4	100 x 86 X 60.4
Drawing		FormA	FormB	FormC
Weight				
Operating Temperature		0 .. 50°C		
Storage Temperature		-20 .. 80°C		
Connection diagram for Each slot				

IN4OUT4

Galvanic isolated input and output module

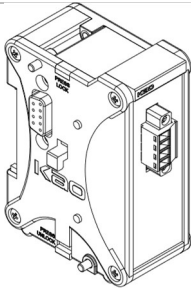
Technical Specifications

Code		IN4OUT4	
			
Description		4 Galvanic isolated input and 4 Galvanic isolated output Module	
Article Nr.		500.308	
Input count		4 (2 x 2)	
Output count		4 (1 x 4)	
Input voltage	Nominal	24V	
	High	12V .. 30V	
	Low	-30V .. +5V	
	High current	5mA	
	Isolation voltage	5KV	
Output	Supply voltage	10 .. 30V	
	Current	1A (per channel)	
	Isolation	3750 Vrms(min)	
Operating current		10mA	
Dimensions		33 x 86 x 60.4	
Drawing		FormA	
Weight			
Operating Temperature		0 .. 50°C	
Storage Temperature		-20 .. 80°C	
Connection diagram for each slot			

PM

Galvanic isolated Pedal input modüle

Technical Specifications

Code	PM
	
Description	3 button galvanic isolated pedal input
Article Nr.	500.403
Pedal inputs count	3
Operating voltage	5V
Operating current	10mA
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C
Connection diagram for Each slot	



Pneumatic Valve modüle

Technical Specifications

Code	VM
Description	3/2 Pneumatic valve modules for air controlling
Article Nr.	500.501
Max.Operating pressure	20Bar
Connections on block	3 (P , A , T) 1/8"
Mounted fittings	1/8"thread automatic for Hose OD6 mm ID4mm
Operating voltage	5V
Operating current	10mA
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C



USB Barcode Reader Module

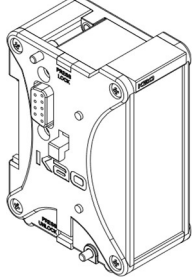
Technical Specifications

Code		BR
Description		Barcoder reader module USB barcode readers 1D and 2D barcodes
Article Nr.		500.601
Reader	Supply voltage	5V
	Supply current	300mA max
	Connection	USB
	Functionality	1D or 2D
Operating voltage		5V
Operating current		10mA
Dimensions		33 x 86 x 60.4
Drawing		FormA
Weight		
Operating Temperature		0 .. 50°C
Storage Temperature		-20 .. 80°C

ENV

Environment Module for measuring air temperature , humidity , barometric pressure

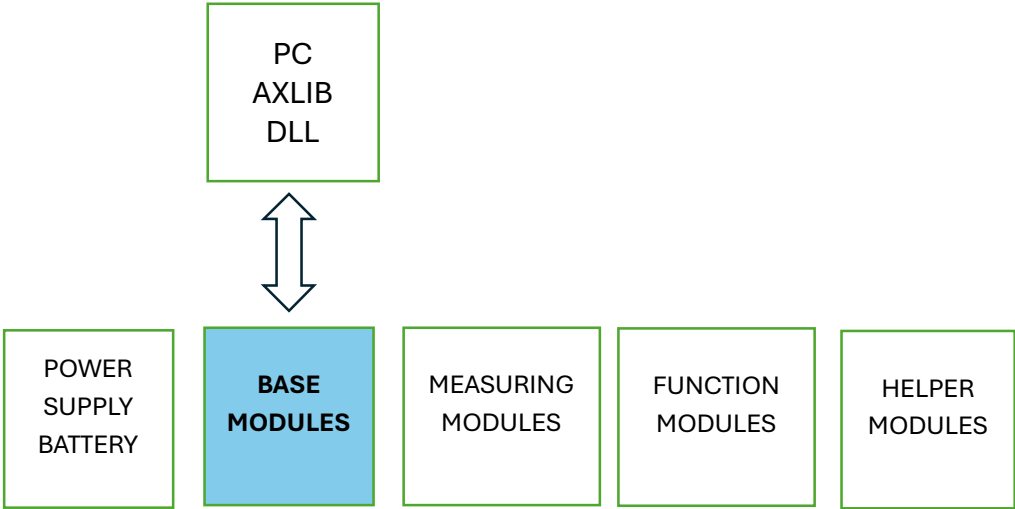
Technical Specifications

Code		ENV
		
Description		Environment module for Air temperature, humidity, barometric pressure
Article Nr.		500.801
Temperature	Range	-20°C / 85°C
	Accuracy	±0.2°C
Humidity	Range	0 - 100%RH
	Accuracy	±2%RH
Barometric pressure	Range	300-1200 hPa
	Precision	0.005 hPa (or ±0.05 m)
	Relative accuracy	0.06 hPa (or ±0.5 m)
	Absolute accuracy	1 hPa (or ±8 m)
Operating voltage		5V
Operating current		10mA
Dimensions		33 x 86 x 60.4
Drawing		FormA
Weight		
Operating Temperature		0 .. 50°C
Storage Temperature		-20 .. 80°C

100

Base Modules

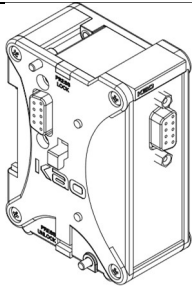
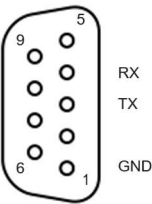
“



BSU

Base Module for connection PC with RS232 interface

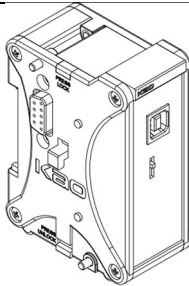
Technical Specifications

Code	BSU
	
Description	Base module for PC connection via RS232 port With galvanic isolation
Article Nr.	100.101
Baudrate	Fixed 115200 (Only using with DLL)
Operating current	20mA
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C
	9 PIN DSUB FEMALE  RX TX GND

BUSB

Base Module for connection PC with USB Interface

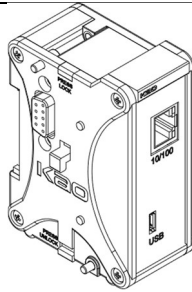
Technical Specifications

Code	BUSB
	
Description	Base module for PC connection via USB 2.0 with or without USB power source
Article Nr.	100.201
USB Power current	Selectable by USB mode 500mA (depending on the computer it is connected to)
Operating current	20mA
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

BLAN

Base Module for connection PC with Ethernet Interface

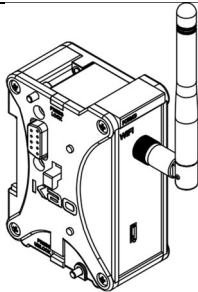
Technical Specifications

Code	BLAN
	
Description	Base module for PC connection via Ethernet interface with auto crossover functionality
Article Nr.	100.301
Parameter input	With LANSET program with mini USB or broadcasting
Operating current	50mA
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

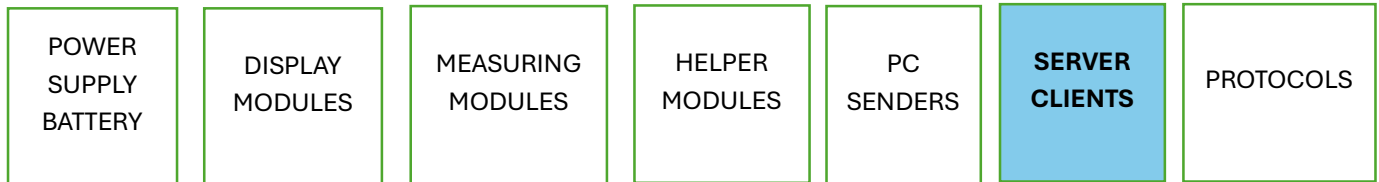
BWIFI

Base Module for connection PC with wireless ethernet interface

Technical Specifications

Code	BWIFI
	
Description	Base module for wireless PC connection
Article Nr.	100.401
Parameter input	With LANSET program with mini USB or broadcasting
Operating current	50mA
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

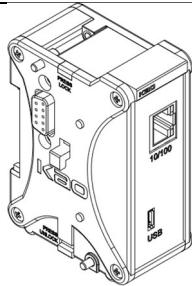
300 Server Clients



CLAN

Server Client Module for connection KAO Server

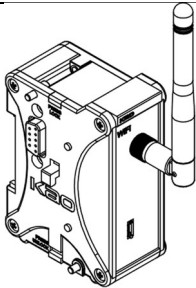
Technical Specifications

Code	CLAN
	
Description	Server Client module for connecting KAO server with crossover functionality
Article Nr.	100.301
Operating current	
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

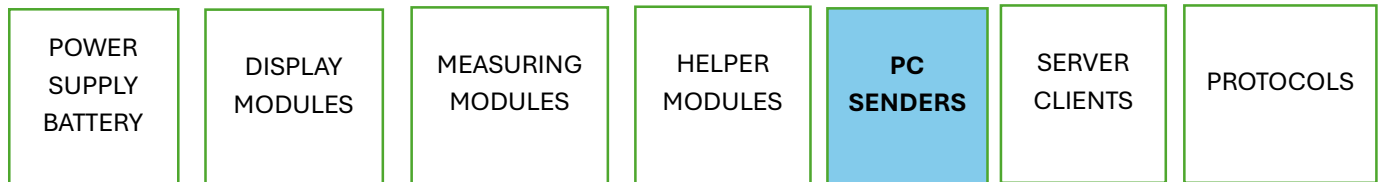
CWIFI

Server Client Module for connection KAO Server

Technical Specifications

Code	BWIFI
	
Description	Server Client module for wireless connecting KAO server
Article Nr.	100.401
Operating current	
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

100 PC Data Senders





Data Sender Module to PC with RS232 interface

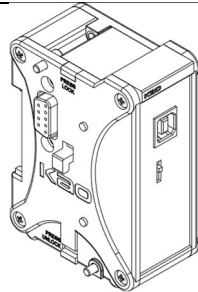
Technical Specifications

Code	SSU
Description	Data sender module to PC via RS232 interface with galvanic isolation
Article Nr.	100.101
Baudrates	
Operating current	
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C
	9 PIN DSUB FEMALE RX TX GND

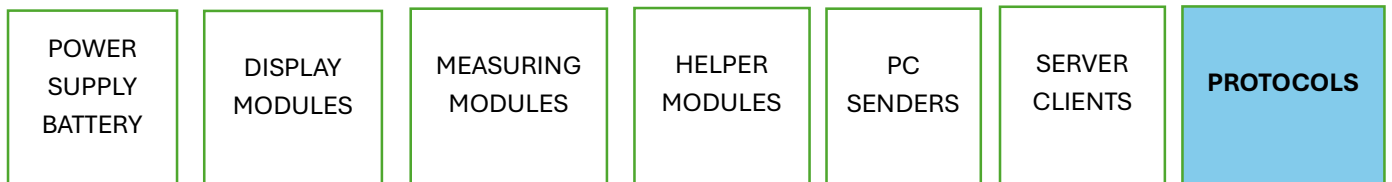
SUSB

Data Sender Module to PC with USB Interface

Technical Specifications

Code	SUSB
	
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	100.201
Operating current	
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

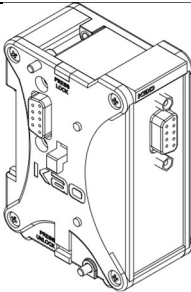
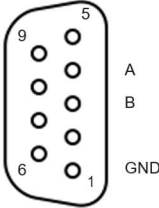
100 Protocol Modules



MRTU

Modbus RTU protocol module

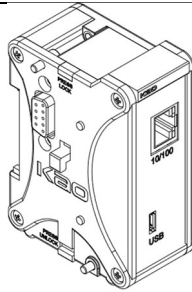
Technical Specifications

Code	MRTU
	
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	100.101
Operating current	
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C
	9 PIN DSUB FEMALE 

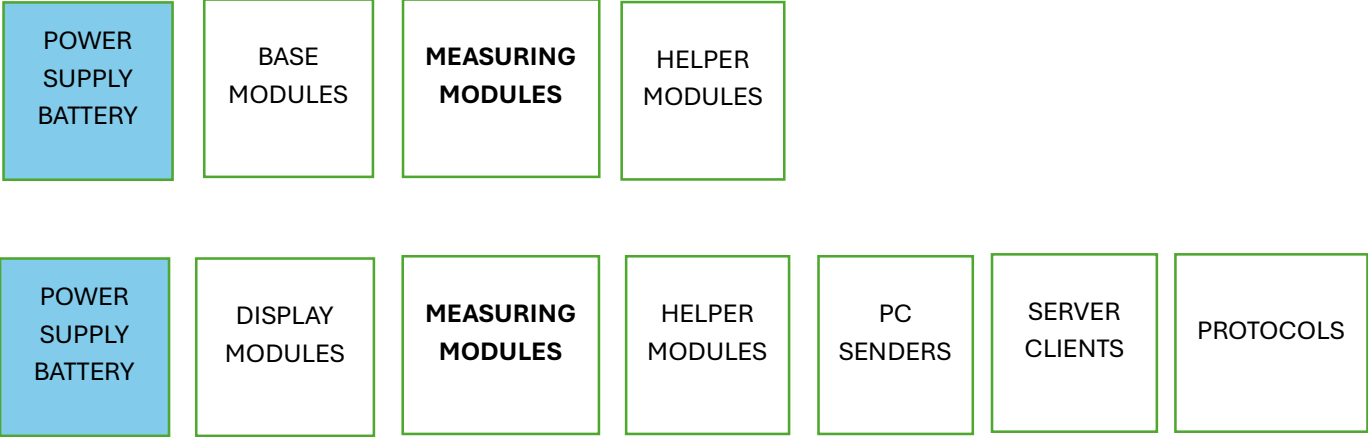
MTCP

Modbus TCP protocol module

Technical Specifications

Code	MTCP
	
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	100.101
Operating current	
Dimensions	33 x 86 x 60.4
Drawing	FormA
Weight	
Operating Temperature	0 .. 50°C
Storage Temperature	-20 .. 80°C

200 Power Supplies



PSU

Power Supply Module

Technical Specifications

Code	PSU
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	200.101
Operating current	
Dimensions	
Drawing	FormA
Weight	
Operating Temperature	
Storage Temperature	

BAT

Battery Module

Technical Specifications

Code	BAT
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	200.201
Operating current	
Dimensions	
Drawing	FormA
Weight	
Operating Temperature	
Storage Temperature	

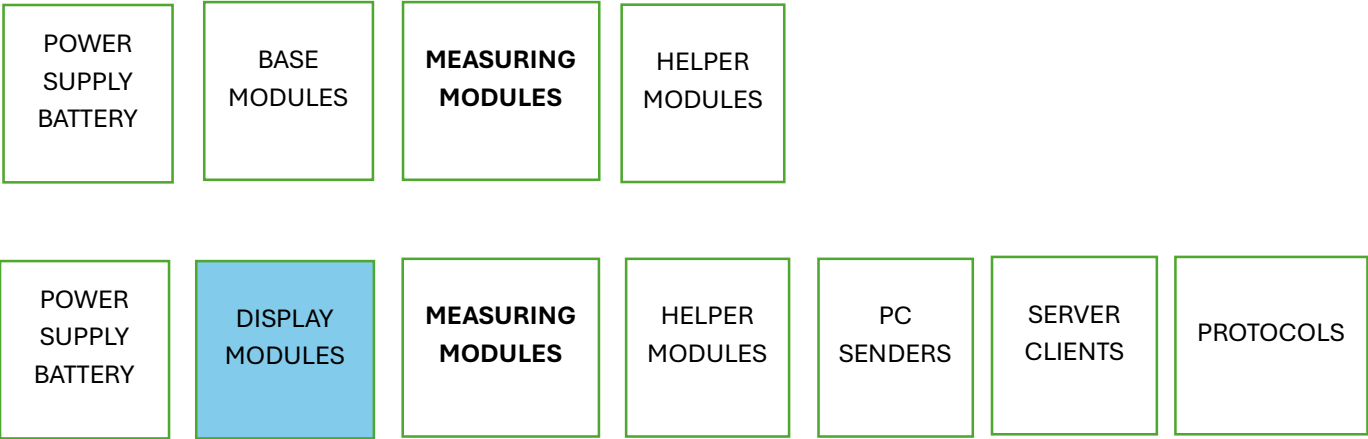


Adapter

Technical Specifications

Code	IN4OUT8
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	200.301
Operating current	
Dimensions	
Drawing	FormA
Weight	
Operating Temperature	
Storage Temperature	

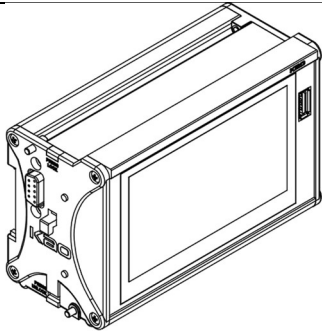
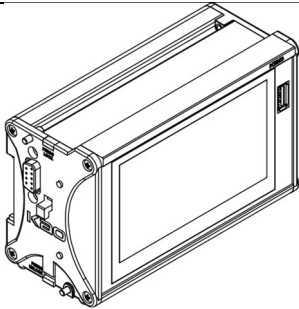
300 Display Modules



DM43

Display Module 4.3 inch with touch control and battery

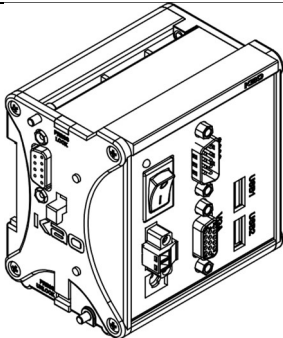
Technical Specification

Code	DM43	DM43BAT
		
Description	1 Channel interface module for incremental and analog encoders	
Article Nr.	300.100	
Operating current		
Dimensions		
Drawing	Form D	
Weight		
Operating Temperature		
Storage Temperature		

VGA

Display module with VGA monitor output

Technical Specifications

Code	IN4OUT8
	
Description	1 Channel interface module for incremental and analog encoders
Article Nr.	300.200
Operating current	
Dimensions	
Drawing	FormA
Weight	
Operating Temperature	
Storage Temperature	

Drawings

