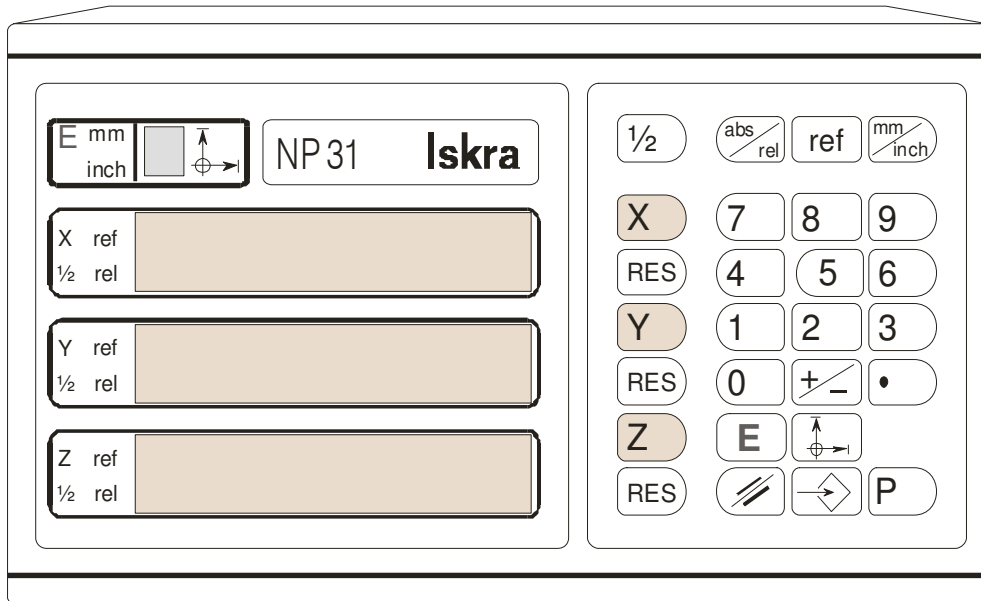
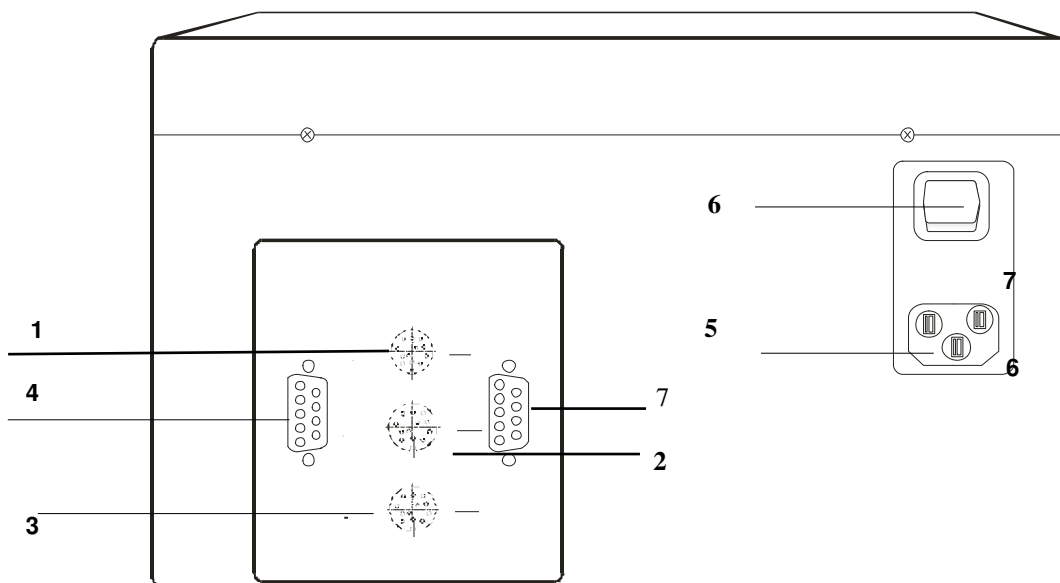


Basic version for EDM machine tools



X Y Z	axis selection keys	ref	reference point mode
RES	reset key of absolute position		measuring relative to datum points
	measuring of relative position		delete
	mm/inch measuring		enter
1/2	halving of positioning value	0 ... 9	numeric value selection keys
P	parameter entry	E	EDM mode of operation



The drawing refers to "S" (box) and "P" (panel) version.
For "C" (console) and "T" (table-top) see pages: 109-110.

1	connector for X axis
2	connector for Y axis
3	connector for Z axis
4	Connector for EDM relay outputs
5	plug for main supply voltage
6	power ON/OFF switch
7	RS232C

Basic version for EDM machine tools

GENERAL DESCRIPTION AND FUNCTIONS:

The position readout device NP31 is used in conjunction with different incremental transducers (linear scales, rotary encoders) as a system for measuring position and length on EDM machine tools.

The microcomputer based structure guarantees high operating reliability while software enables the introduction of additional new functions in order to simplify operation and to adapt the device to users.

FUNCTIONS:

q Reset	q abs/rel measuring	q 9 Datum points
q Preset	q Inch/mm measuring	q Machine tool error compensation
q Reference pont	q Halving of positioning value	q Parameter entry and display
q EDM mode of operation	q Velocity measuring	q Bolt hole positioning

OPTIONS:

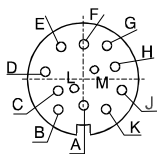
q Battery back-up	□ RS 232C
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TECHNICAL DATA:

Supply voltage	220 V +10% -15%
special order:	110 V +10% -15%
Supply voltage frequency	48 Hz - 62 Hz
Power consumption	cca 20 VA
Operating temperature	0 - 45°C
Relative humidity	5 - 75%
Mechanical protection	IP 42
Vibrations	1 g from 10 to 150 Hz
Shocks	15 g
EMC:	
Immunity	EN 50 082/2
Emission	EN 50 081/1
Dimensions	W x H x D = 250 x 150 x 101 mm
Weight	1.5 kg

MEASURING SIGNALS:

Input signals - square-wave inverted signals (DI, DS):



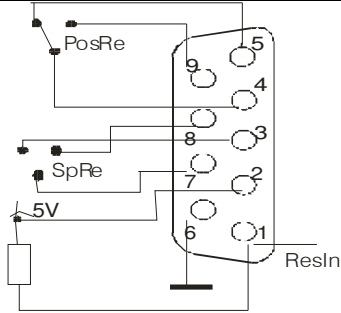
Axis X, Y, Z

Supply voltage	5 V (from device)
Max. frequency	1 Mhz
Connector	12 pole, Amphenol

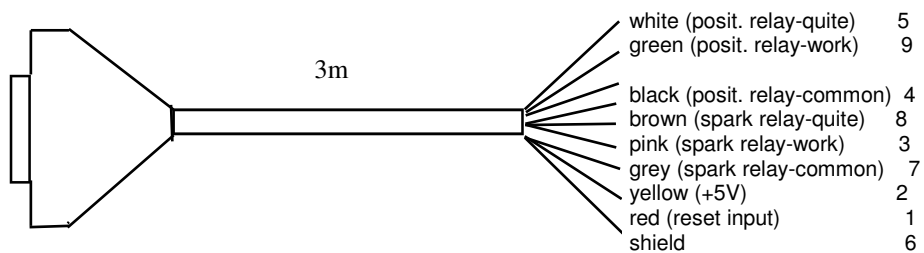
contact	A	B	C	D	E	G	H	K	L
signal	shield	0V	A	\bar{A}	B	RI	\bar{RI}	+V	\bar{B}

CONNECTOR FOR EDM OUTPUT SIGNALS

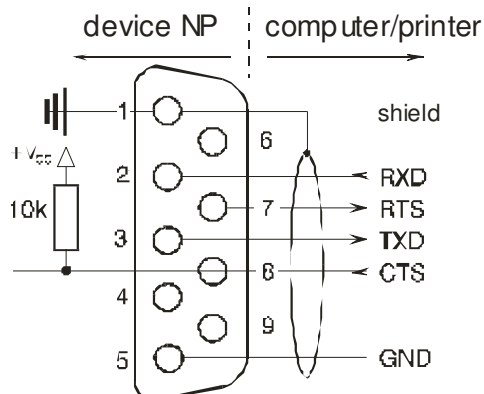
pin	1	2	3	4	5	6	7	8	9
signal	Res Input	+5V	Spark Relay (work contact)	Posit. Relay (Common)	Posit. Relay (quite contact)	0V	Spark Relay (common)	Spark Relay (Quite conntact)	Posit. Relay (work conntact)
color	red	yellow	pink	black	white	shealth	grey	brown	green



EXTERNAL CABLE CONNECTION FOR EDM OUTPUT SIGNALS:



CONNECTOR FOR RS 232 C (Option):



pin	1	2	3	4	5	6	7	8	9
signal	shield	RXD	TXD	-	GND	-	RTS	CTS	-

DIGITAL POSITION READOUT SYSTEM

NP31

Basic version for EDM machine tools

STANDARD DELIVERY:

Digital readout system NP 31.

Power supply cable with plug-in connector for 220 VAC, 50 Hz, 3 m length.

Spare fuse 0.2 AT for 220 VAC, or 0.4 AT for 110 VAC.

DIMENSIONS:

For dimensions of different housing types see :

"HOUSING TYPES S, P, C and T"

pages 109-110.

OPTIONS:

All devices can be delivered with the following options:

B	Battery back-up
K	RS232C serial interface

ACCESSORIES:

For "S" - box version: stand D
 For "C" - console version: console from 15 cm to 45 cm
 For details see pages: 109-110

ORDERING DATA:

Standard delivery:				Options:	
NP 31	Housing	Input measuring signals	Power supply	B	K
	S = Box C* = Console T = Table top P = Panel C* = In case of console DRO's ordering it is required to order separately Console itself (available lengths from 15 cm to 45	DS = 5V TTL (standard RS422A) SI = 11 µA (option on request)	SM = Switch Mode: universal power supply 85-250V (standard for C, T and P version) LM = Linear Mode: standard for S version) LM1 : 110VAC LM2 : 220VAC	Battery back up	Communication interface RS232C