

DM SERIES

OPTIONS AND ACCESSORIES

ENCODER

Encoder

If speed, direction and position of the belt or load are to be permanently monitored and controlled, the use of an encoder is recommended. It enables a system control with closed control loop by transmitting low- to high-resolution signals to an external control unit. An encoder is installed onto the rotor shaft and cannot be used simultaneously with a brake or a backstop. Incremental encoders, absolute value encoders or resolvers are available as encoder types.

All resolutions and speeds provided in the following table refer to the rotor shaft. The drum motor gear ratio must be considered to find the values related to the drum shell.

Encoder types		Asynchronous drum motors	Synchronous drum motors
SKF 32 incremental encoder	32 pulses	●	
RLS incremental encoder	64 to 2048 pulses	●	●
LTN resolver	2-pole resolver	●	●

Technical data

SKF 32 incremental encoder

Power supply	$V_{dd} = 5 - 24 \text{ V}$
Current consumption	Max. 20 mA
Electrical interface	Open collector NPN
Output increments	A, B
Increments resolution	32 pulses/revolution
Max. cable length	10 m

Note: Interroll recommends the use of an optocoupler for the following reasons:

- To protect the encoder
- To enable connection to other levels such as PNP
- To get the maximum potential between high and low signal

RLS incremental encoder

	RS422A 5 V	Push-pull 24 V
Supply voltage	$5 \text{ V} \pm 5 \%$	8–26 V
Power supply	35 mA	50 mA at 24 V
Increments resolution	32, 64, 128, 256, 512, 1024, 2048	32, 64, 128, 256, 512, 1024, 2048
Output signal	A, /A, B, /B, Z, /Z	A, /A, B, /B, Z, /Z
Max. cable length	5 m	5 m

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	SSI - RS422
Supply voltage	5 V \pm 5 %
Power supply	35 mA
Resolution (positions per revolution)	10 bit (1024)
Output signal (RS422A)	SSI – RS422
Accuracy	\pm 0.5 °
Hysteresis	0.18°

LTN resolver

Power supply	7 V
Input frequency range	5 kHz / 10 kHz
Input current	58 mA / 36 mA
Number of poles	2
Transformation ratio	0.5 \pm 10 %
Max. cable length	10 m

SKS36 Hiperface* (Sick/Stegman)

Power supply	7 to 12 V (8 V recommended)
Current consumption	max. 60 mA
Data transfer	Hiperface
Serial data	RS485
Single turn resolution	4096 positions / revolution
Sine/cosine periods per revolution	128
Max. cable length	10 m

* More information about the SKS36 Hiperface (Sick/Stegman) is available from your Interroll customer representative.

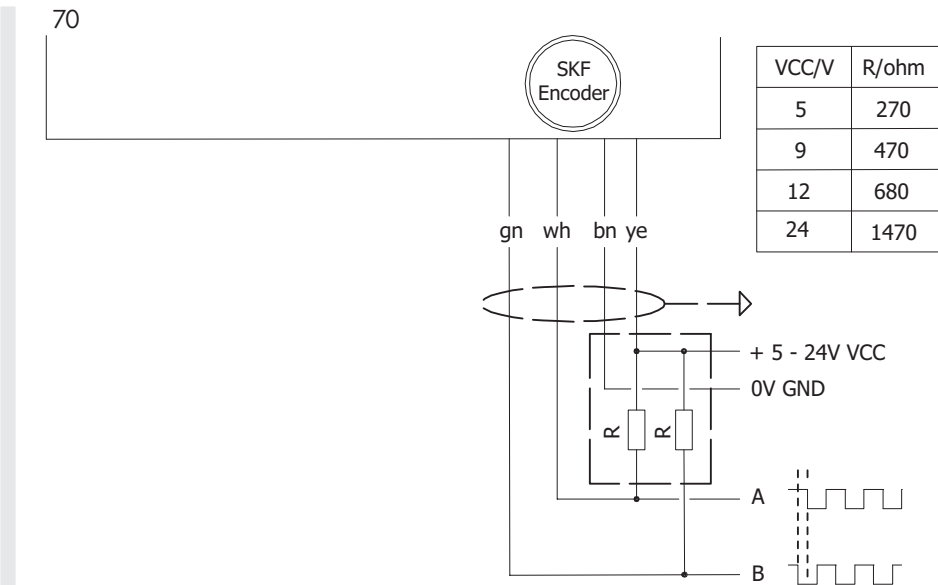
Connection diagrams

Abbreviations

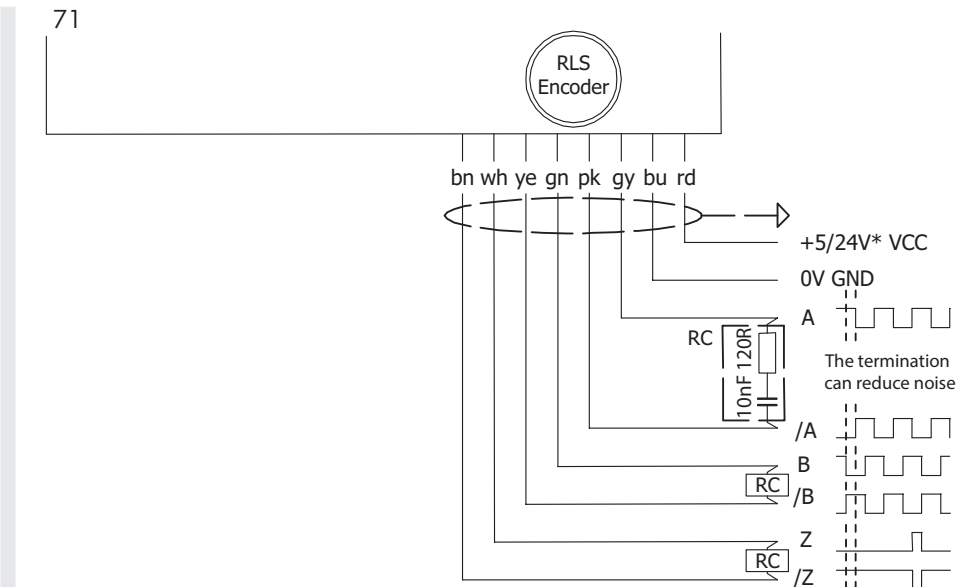
ye/gn	= yellow/green	pk	= pink
wh	= white	rd	= red
bn	= brown	bu	= blue
gn	= green	TC	= Thermal controller (bi-metal switch)
ye	= yellow	BR	= Electromagnetic brakes
()	= other color	NC	= Not connected
gy	= gray		

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SKF 32 incremental encoder

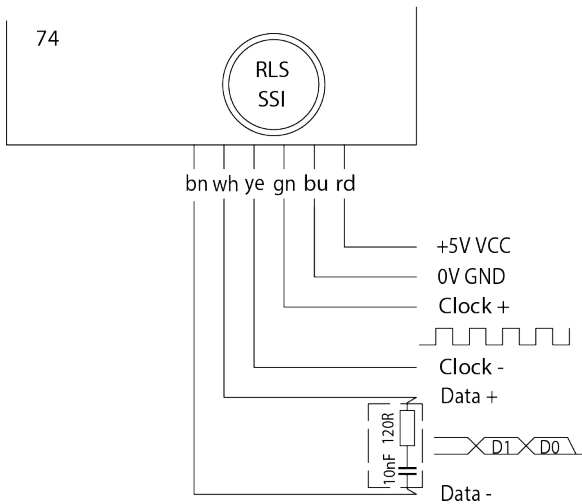


RLS incremental encoder

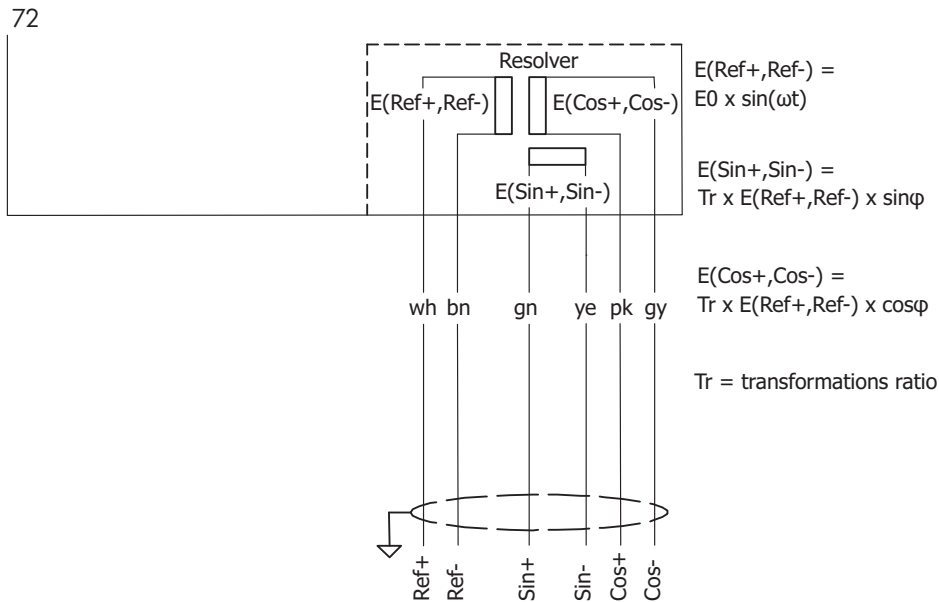


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RM44-RLS DM

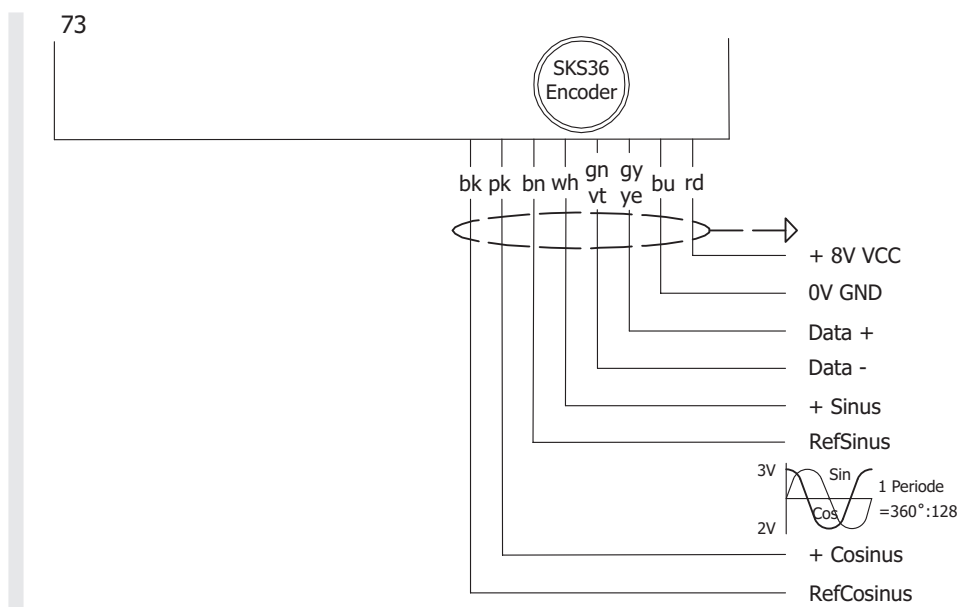


LTN resolver



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SKS36 Hiperface* (Sick/Stegman)



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Cable

	Cable for incremental encoder SKF 32	Cable for incremental encoder RLS	Cable for resolver LTN	SKS36 Hiperface (Sick/ Stegman)
Main cores (number)	4	8	6	8
Cross section	0.14 mm ²	0.14 mm ²	0.14 mm ²	0.15 mm ²
Numeric code and color code	Color code	Color code	Color code	Color code
Insulation conductors (main cores)	PVC	PVC	PVC	PP
Insulation conductors (data cores)	PVC	PVC	PVC	PUR
Halogen-free	No	Yes	No	Yes
Color of outer sheath	Gray	Gray	Gray	Black
Shielded	Copper	Copper	Copper	Copper
Outside diameter	4.3 ± 0.3 mm	5.0 ± 0.2 mm	5.8 ± 0.3 mm	5.3 ± 0.3 mm
Operating voltage max.	250 V	524 V	350 V	250 V
Temperature range	-20 to +105 °C according to UL	-20 to +105 °C according to UL	-20 to +80 °C according to UL	-20 to +80 °C according to UL