

5.3.3 Print Go interface X5 (print triggering)

For the creation of the print triggering (print go signal) a 5-pole plug socket **X5** is assembled on the rear side of the device on which an external print go signal can be fed in.

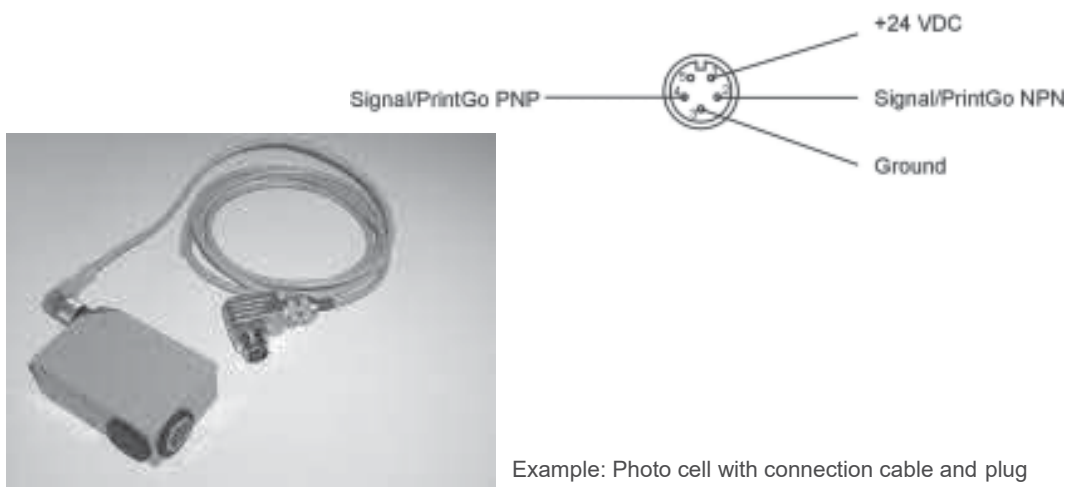
The signal can be created with a bounce free and potential free contact (inner resistance $\leq 1 \text{ k}\Omega$) or with electronic PNP/NPN proximity switches (observe Pin assignment in the connection plug).

A supply voltage of 24 V DC, 100 mA for sensors can also be taken from the plug socket (**X5**) on the rear side of the device.

The print go signal is created through a signal jump. A shaft encoder must be used in addition for the synchronisation of the print speed with the product speed (with variable speed).

Figure 8

Plug X5 for product sensor at the backside of the electronics cabinet.



5.3.4 Shaft encoder

5.3.4.1 Description and pin assignment

With a variable product speed a shaft encoder must be used for the synchronisation of the print speed with the product speed or for the regulation of the constant type width. Shaft encoders with 5 volt logic and line drivers as per EIA 485 A or EIA 422 A can be used. The transmission ratio between product and shaft encoder speed should be selected in such a manner that a maximum output frequency of 150 kHz is not exceeded.

Shaft encoders with 1000, 2500, 5000 and 10000 impulses/revolution are available.

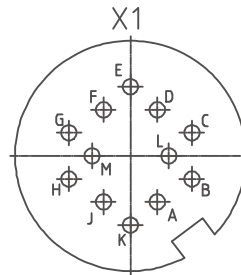
Leibinger ordering number: see group replacement parts

With more difficult operating conditions (dust or humidity) shaft encoders with IP 66 form of protection should be used.

Figure 9



Pin assignment



Pin	Signal	Colour
A	+5V	BN 0,5mm ²
B	GND	WH 0,5mm ²
C		free
D	A	BN 0,14mm ²
E	\overline{A}	GN 0,14mm ²
F	B	GY 0,14mm ²
G	\overline{B}	PK 0,14mm ²
H	ZERO	RD 0,14mm ²
J	\overline{ZERO}	BK 0,14mm ²
K		free

Example: Shaft encoder with connection cable and plug

Should alternative shaft encoders be used, the minimum impulse issued should be 3 impulses /mm in order to achieve a sufficient resolution!

5.3.4.2 Mechanic installation



With mechanic installation of the shaft encoders in all cases attention must be paid to ensuring that the encoder is protected from axial and radial burdening during assembly and in continuous operation. For this a folding bellows or synthetic material coupling is used.

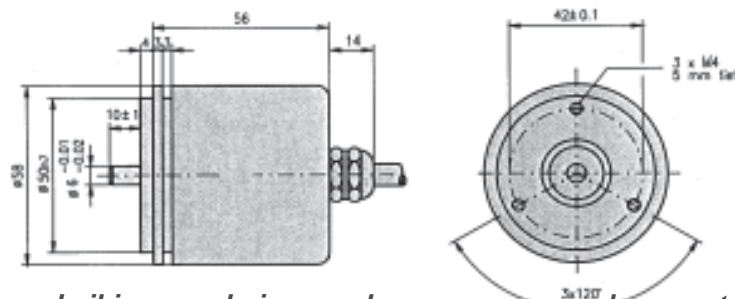
If the circumstances allow the shaft encoder can also be adapted to a production line with a frictional wheel.



Attention – risk of injury!

Your fingers could get caught between the frictional wheel and the production line. Keep your hands outside the danger area.

Figure 10



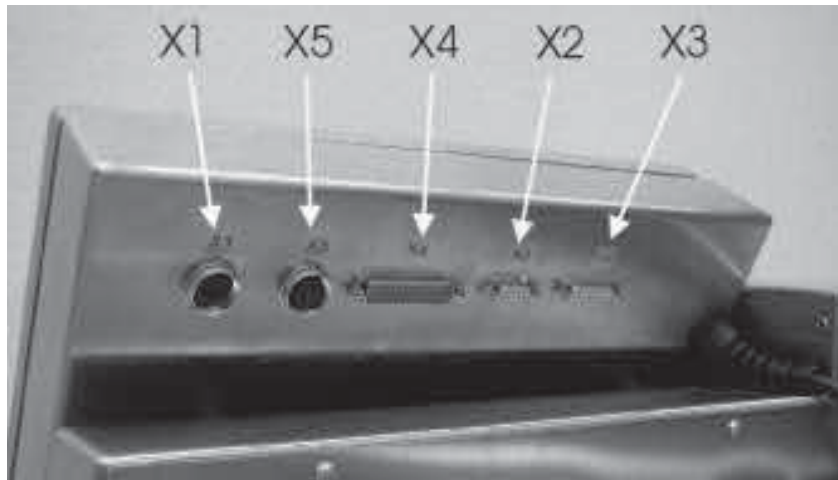
Leibinger ordering number: see group replacement parts

6.4 Interfaces

The following interfaces are available on the rear side of the electronics cabinet.

Figure 23

- X1 – Shaft encoder
- X2 – Data RS 232
- X3 – Outputs
- X4 – Inputs
- X5 – PrintGo



6.4.1 Data interface X2

On the **9-pole SUB-D bush** an external PC can be connected for data entry using a corresponding connection cable.

6.4.2 PrintGO interface X5

Figure 24

On the **5-pole diode bush**, depending on the PIN occupation, PNP or NPN product sensor or potential-free contact can be connected for triggering the print.

Article no.: see group **Replacement parts - periphery**



Product

6.4.3 Shaft encoder interface X1

Figure 25

On the **12-pole diode bush** a shaft encoder can be connected for the synchronisation of the product speed with the print speed.

Article no.: see group **Replacement parts - periphery**



Shaft encoder

Should alternative shaft encoders be used the minimum impulse issue should be 3 impulses/mm in order to achieve an efficient resolution!

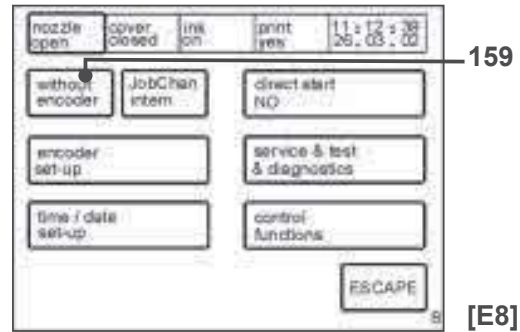
7.7.3 Encoder

Figure 90

The touch field **<encoder>** (159) de-activates or activates this.

At the same time the current status „with“ or „without“ is displayed.

With encoder print is possible in one or in both directions.



7.7.4 Encoder parameters

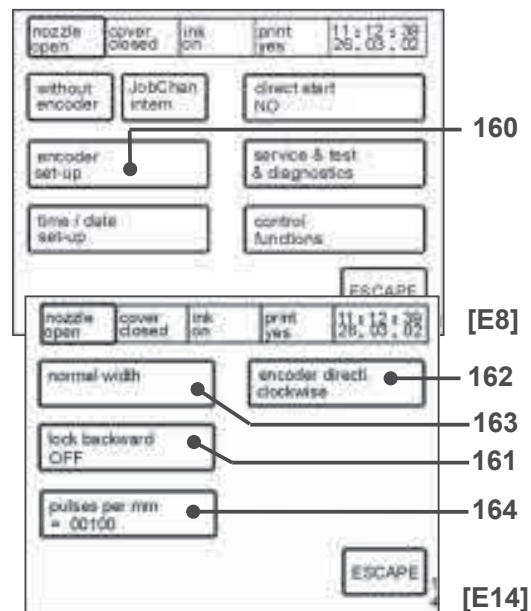
Figure 91

The current status is displayed in all fields.

The touch field **<encoder set-up>** (160) controls the basic settings of the encoder. The “selection level”**<E14>** is opened.

With the touch field **<lock backward>** (161) the return barring is activated or deactivated.

If the return barring is switched on the strokes that are created during any backwards movement are taken into consideration in ensuing forwards movement to control the correct insertion of the text print-out.



With the touch field **<encoder directi.>** (162) a choice can be made between direction of rotation to the left or to the right. Encoder signals are only evaluated with a correctly set direction of rotation.

The touch field **<width>** (163) controls the print width of the print-out. The modes “normal” and “extra” are available for selection. In the “extra” mode the print width is doubly wide. Only possible with the “without encoder” setting.

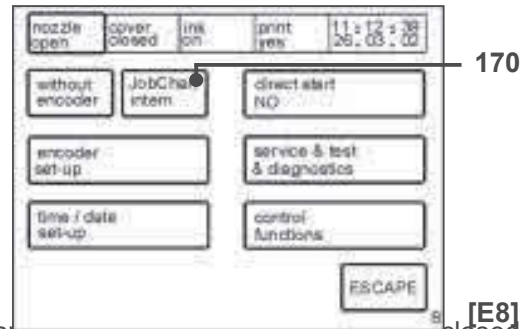
Observation: In the “normal width” mode the device works at a rapid stroke rate, with “extra width” (extra wide) at a lower stroke rate.

With the touch field **<Pulses per mm>** (164) the pulses/revolution indicated on the encoder can be multiplied by the factor 4 and following the multiplication they can be divided by the distance determined for one revolution.

7.7.5 Job change

Figure 92

By switching over to the touch field **<JobChan>** (170) from “internal” to “external” the possibility is given of changing between 128 jobs during production by means of an external signal. If the “internal” mode is activated external signals for a job change are ignored.



Observation: With activated external job change, jobs can only be edited with a closed nozzle. To change a job by external signals the head must be open. A corresponding signal from the SPC is required.

At the same time the current status “internal” or “external” is displayed in the field.

7.7.5.1 Printing with the function “external job selection”

For the usage of the function “external job selection” the printer has to be prepared as follows:

1.) Delete all jobs:

Please push the following order of buttons: ► “main menu” ► “job management” ► “delete jobs” ► “all jobs” ► “YES”

2.) Create 128 Default-jobs:

Please push the following order of buttons: ► “main menu” ► “function parameter” ► “replacements” ► “replace figures” ► “ESC” ► “Job management” ► “Factory setting & default job”.

After these steps 128 default-jobs have been created automatically (see under “main menu” ► “job management” ► “list all jobs”).

The jobs are numbered all the way through with names from “001” up to “128” and the function “external job change” is activated in the single jobs.

(This is necessary that no undefined job can be selected by switching over the inputs and that in every job the function “external job change” is already activated).