

Interface Description

I/O Interfaces I/O 24V25-2 and I/O 24V25-3

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Function

The I/O interfaces are designed to connect the printer to a superordinated control.

The interfaces I/O 24V25-2 and I/O 24V25-3 are intended for printers of the HERMES Q and PX Q series and already integrated.

I/O 24V25-3 supports beside the I/O functions also the ribbon saver function.

	I/O 24V25-2	I/O 24V25-3
Part No.	6010372	6010394
Operating Voltage	24 V	
External Interface	25 pin SUB-D connector	
Interface to the CPU	USB	
Application	HERMES Q, PX Q	
Ribbon Saver Support	no	yes

Table 1 Technical Data

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The interface has a 25 pin SUB-D connector.

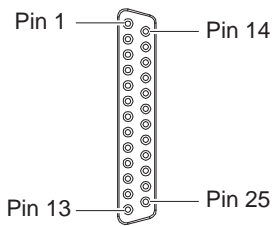


Figure 1 I/O interface



Note!

The function of the outputs on the pins 4, 9 10 and 21 can be re-defined temporarily by direct programming e.g. to control external devices with the user bits 0 to 3 ▷ Programming Manual.

Pin	Signal	Name	HERMES Q	PX Q	Activation / Active State
1		FSTLBL	* with applicator for <i>Cycle sequence = Apply-Print</i> Print first label	-	+24 V between Pin 1 and Pin 25
2		LBLWARN	The label supply roll diameter has undershot a predefined level	-	0 V on Pin 2
3		ENDPOS	* with applicator End position Applicator is in the position of transferring the label onto the product.	-	+24 V on Pin 3
4		FEEDON	Media transport ON Labels are fed by the printer		+24 V on Pin 4
		Bit 0	User Bit 0 is set.		
5		HOMEPOS	* with applicator Home position Applicator is in the position where the label can be taken from the printer.	-	+24 V on Pin 5
		PRSTD	-	The print start of a label is signaled by a 40 ms pulse.	
6		GND_INT	Ground (0 V) for sensors or trigger switches		
7		RIBERR	Out of ribbon		0 V on Pin 7
8		MEDERR	Out of ribbon or paper	Out of ribbon	0 V on Pin 8
9		JOB RDY	Print job ready Print jobs are stored in the print buffer.		+24 V on Pin 9
		Bit 1	User Bit 1 is set.		
10		READY	Printer respectively printer and applicator are ready		+24 V on Pin 10
		Bit 2	User Bit 2 is set.		
11		LBLFEED	Label feed An empty label will be fed to synchronize the paper feed; enabled if no print job is loaded or after an error is occurred		+24 V on Pin 11
12		REPRINT	The last printed label will be repeated.		+24 V between Pin 12 and Pin 25











Pin	Signal	Name	HERMES Q	PX Q	Activation / Active State
13		START	* with applicator Print and labelling start signal	Print start signal	+24 V between Pin 13 and Pin 25
			* without applicator for <i>Print on demand = On</i> Print start signal		
14		PAUSE	Pause ON/OFF		Pause ON when +24 V between Pin 14 and Pin 25
15		RIBWARN	Warning end of ribbon The ribbon supply roll diameter has undershot a predefined level		0 V on Pin 15
16		LBLREM	* in peel-off mode without applicator Label removed Confirmation of the superior control that the label has been taken from the peel-off position. Required for the validity of a new start signal.		Switch on +24 V between Pin 16 and Pin 25
17		JOBDEL	Cancel print job Depending on the setting of the parameter <i>JOBDEL mode</i> only the current print job is canceled and deleted from the print buffer or all jobs in buffer are canceled.		Switch on +24 V between Pin 17 and Pin 25
18		RSTERR	Reset Error state of the printer will be reset.		Switch on +24 V between Pin 18 and Pin 25
19		P24_INT	Internal operating voltage +24 V, Si T 100mA for external consumers e.g. sensors, trigger switches		
20		COMMON	External reference potential for the outputs		
21		PEELPOS	* with applicator The applicator is ready a new cycle. Required for the validity of a new start signal.	A label is in peel-off position.	+24 V on Pin 21
			* without applicator A label is in peel-off position.		
		Bit 3	User Bit 3 is set.		
22		ERROR	General error message The operation will be stopped and the error type will be displayed.		0 V on Pin 22
23		STOP	Stop signal to interrupt the operation		Switch on +24 V between Pin 23 and Pin 25
24		LBLROT	* at applicators with variable labelling orientation Off: Labelling with primary orientation e.g. 0° On: Labelling with secondary orientation e.g. 90°		Switch on +24 V between Pin 24 and Pin 25
25		GND_EXT	Ground of the external 24 V		

Table 2 Pin assignment of the I/O interface

► Start menu.

Select  Setup >  Interfaces >  I/O.







Parameter	Meaning	Default
 <i>START mode</i>	<p>Configuration of the I/O signal START</p> <p><i>Edge:</i> A label will be printed by switching on 24V between START and GND_EXT.</p> <p><i>Level:</i> In Rewind mode labels are printed as long as 24V are switched on between START and GND_EXT.</p> <p>In Peel-off mode a label will be printed after receiving the signal LBLREM as long as 24V are switched on between START and GND_EXT.</p>	<i>Edge</i>
 <i>REPRINT mode</i>	<p>Configuration of the I/O signal REPRINT</p> <p><i>Edge:</i> A label will be repeated by switching on 24V between REPRINT and GND_EXT.</p> <p><i>Level:</i> A label will be repeated as long as 24V are switched on between REPRINT and GND_EXT.</p> <p><i>START/REPRINT select:</i> A label will be repeated when 24V are switched on between REPEAT and GND_EXT and the START signal will be activated additionally.</p>	<i>Edge</i>
 <i>JOBDEL mode</i>	<p>Configuration of the I/O signal JOBDEL</p> <p><i>Cancel print job:</i> The current print job is canceled and deleted from the print buffer.</p> <p><i>Cancel all:</i> All jobs in buffer are canceled.</p>	<i>Cancel print job</i>
 <i>Automatic LBLREM</i>	<p>* for peel-off mode without present sensor and <i>START mode = Level</i></p> <p>Simulation of the I/O signal LBLREM</p> <p><i>On:</i> With the signal START the removing of the previous label also will be confirmed.</p> <p><i>Off:</i> To confirm the label removing the signal LBLREM must be activated.</p>	<i>Off</i>
 <i>Start delay</i>	Delay (max. 2,5 s) between start signal and the start of an labelling cycle.	<i>0 ms</i>
 <i>Lock time</i>	All start signals coming in following the first start signal are ignored when they arrive within the lock time (max. 2,5 s).	<i>0 ms</i>

Table 3 Parameters of the Setup > Interfaces > I/O menu

Digital Inputs

- conform to IEC/EN 61131-2 (Type 1+3)
- Operating voltage: 24 V DC (18..30 V)
- Switching logic: PNP switching
- Low level „0“: < 5 V DC
- High level „1“: > 15 V DC
- Input current per channel: 4..5 mA (at 24 V DC)
- Galvanic isolation: 3,75 kV
- Reverse polarity protection: yes
- ESD protection: up to 8 kV

Digital Outputs

- conform to IEC/EN 61131-2
- Operating voltage: 24 V DC (18..30 V)
- Switching logic: NPN/PNP switching
- Output current per channel: 700 mA
- Total output current: 700 mA (overload protection)
- Galvanic isolation: 3,75 kV
- Short-circuit protection: yes
- Reverse polarity protection: yes
- ESD protection: up to 8 kV

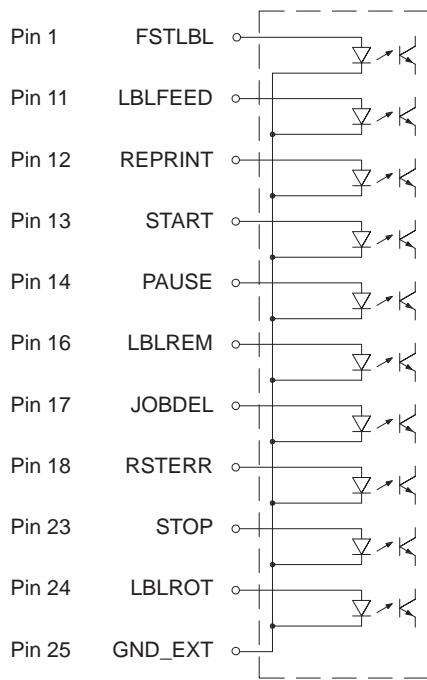


Figure 2 Connecting inputs

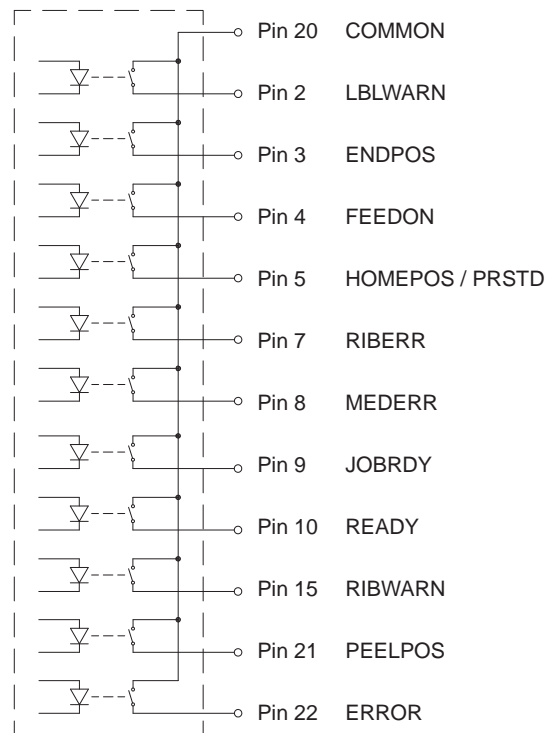


Figure 3 Connecting outputs

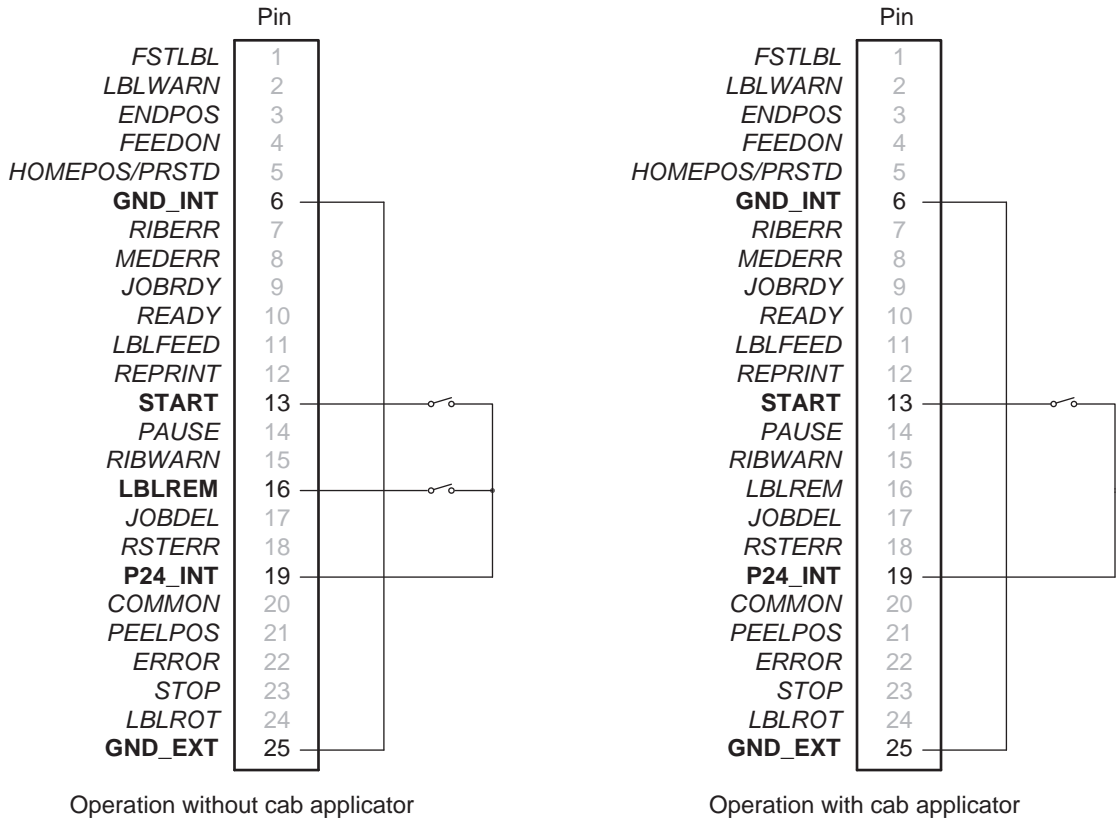


Figure 4 External minimum circuit of the I/O interface using the internal voltage P24_INT

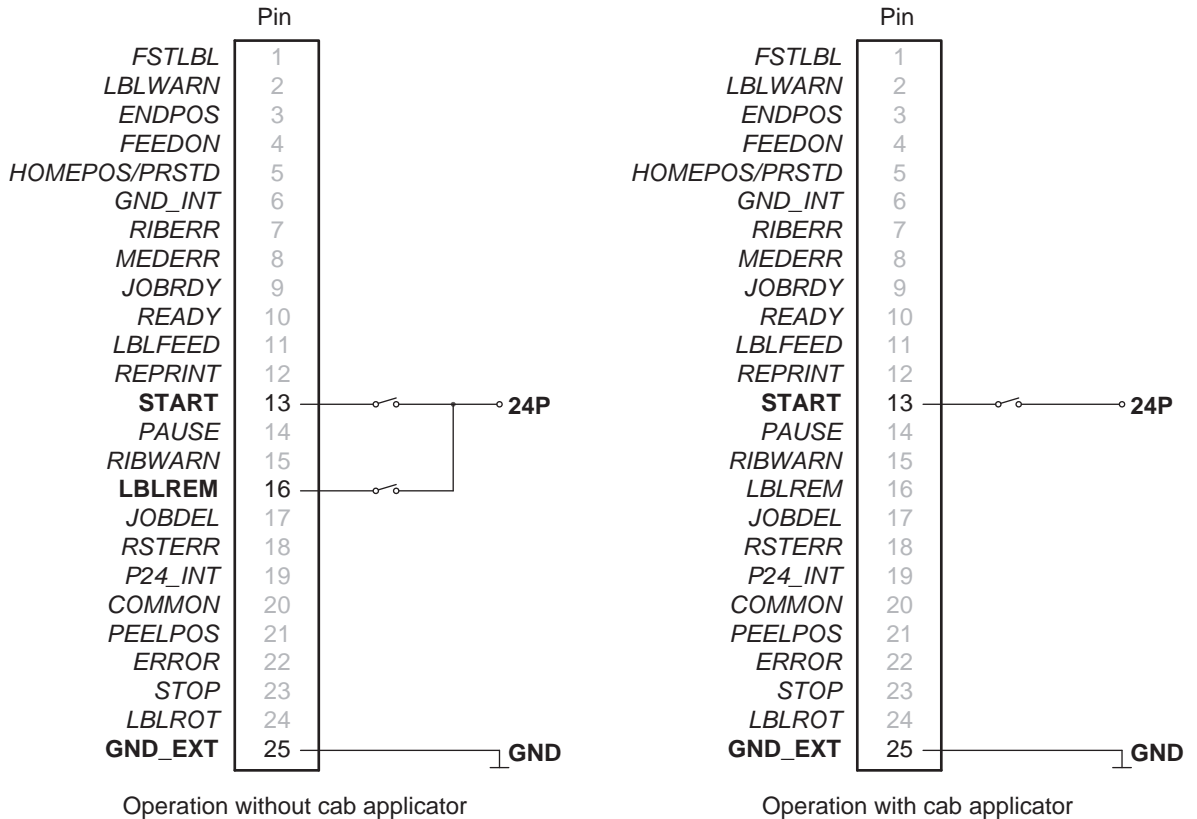


Figure 5 External minimum circuit of the I/O interface with external voltage supply

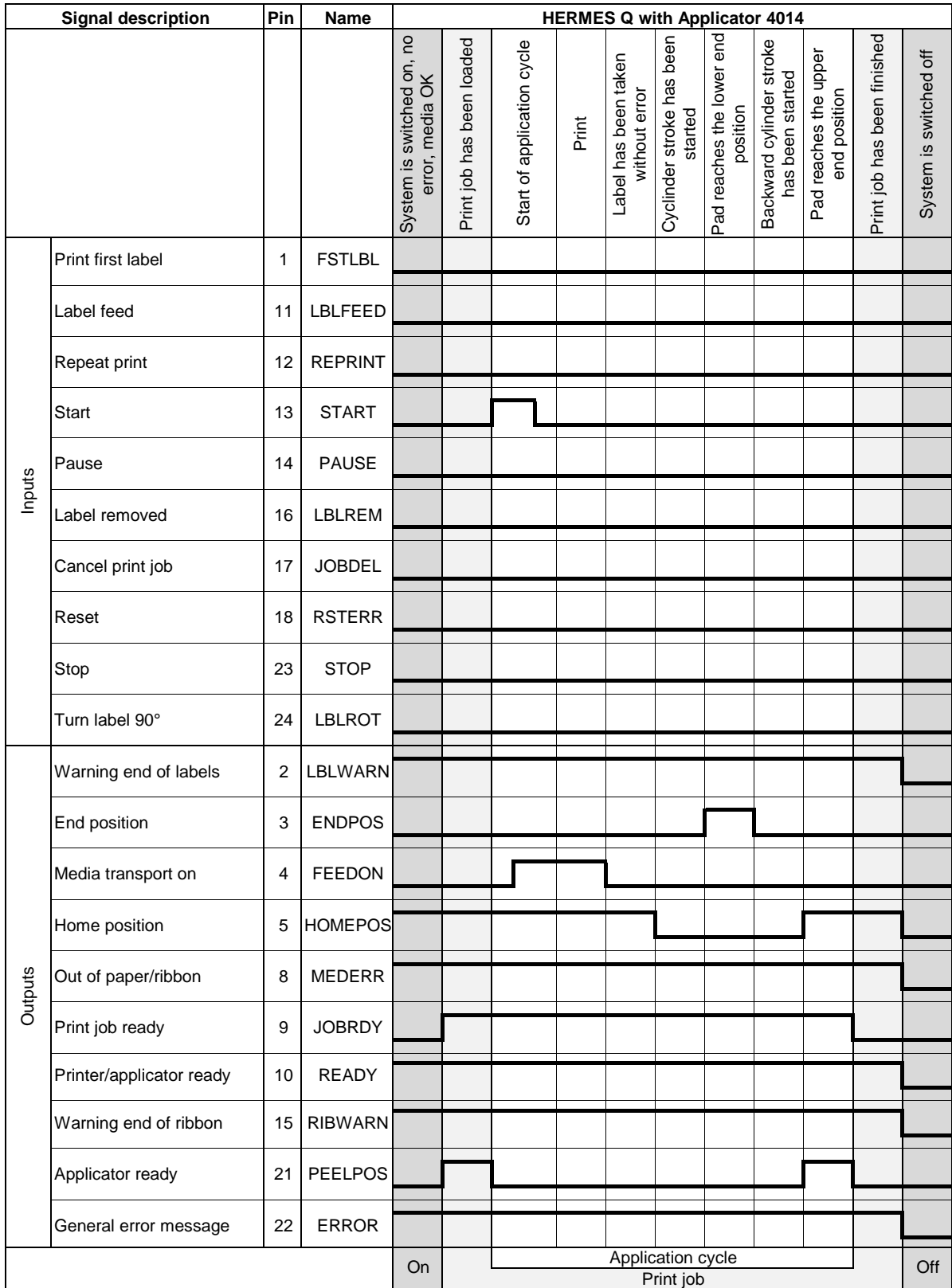


Figure 6 Signal map HERMES Q with I/O 24V25-2 or I/O 24V25-3 and Applicator 4014 in "Print/Apply" mode

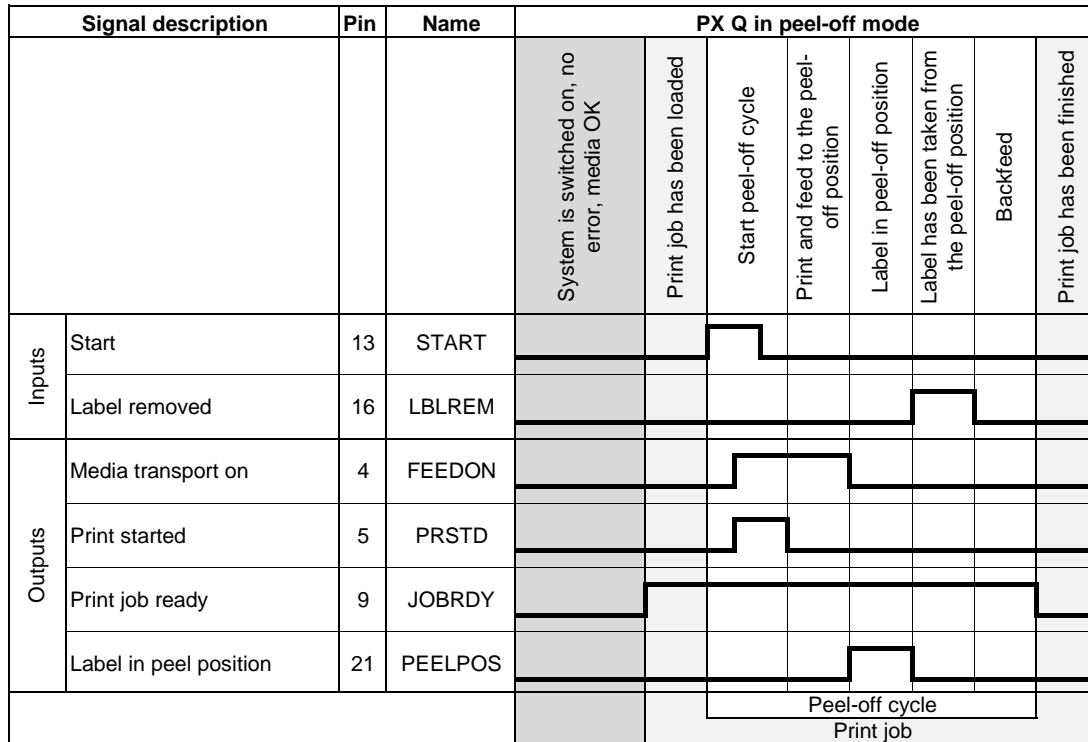


Figure 7 Signal map PX Q with I/O 24V25-2 or I/O 24V25-3 in peel-off mode

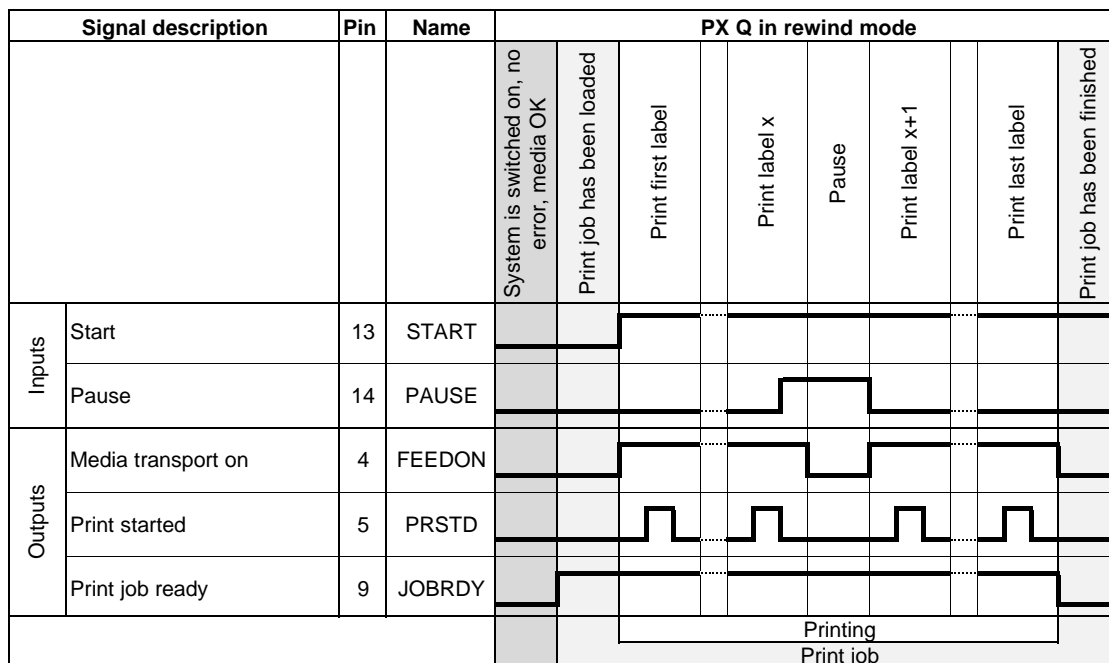


Figure 8 Signal map PX Q with I/O 24V25-2 or I/O 24V25-3 in rewind mode