

# Application Note Substitute

Series: KRTM 3B, KRTW 3B, KRTL 3B





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**General  
Information**

# Phase Out KRTM 3B, KRTW 3B, KRTL 3B

## General Information

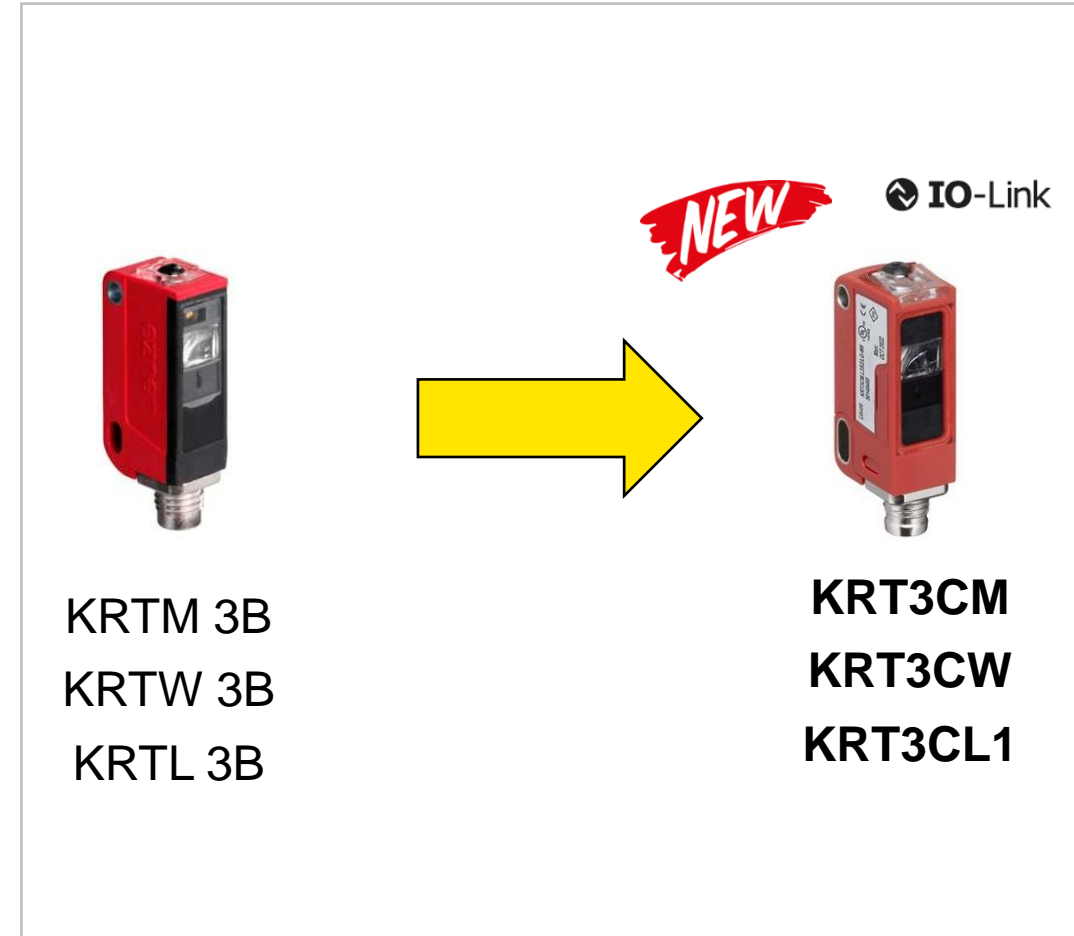
### Phase-Out Products KRTM 3B, KRTW 3B, KRTL 3B

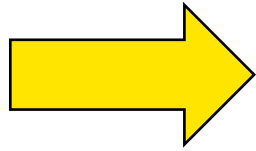
The contrast scanners for detecting marks of the product family Series **3B** will be phased out in 2023.

Starting in **April 2023**, we will launch the successor products of the new product family **Series 3C**. Therefore, the new Generation of contrast scanners KRT3CM, KRT3CW and KRT3CL will replace the actual generation KRTM 3B, KRTW 3B and KRTL 3B.

#### Important points to know:

- **Mechanical compatibility:** The housing of the new Series 3C is fully mounting compatible to the housing of old Series 3B. On top of that the housing of Series 3C offers protection class IP69K.
- **Teach by wire via Pin 2:** The teach by wire via Pin 2 works slightly different in KRT3C compared to KRT3B.
- Please keep in mind that the transition of non-IO-Link devices has to be completed until the end of 2023. IO-Link devices until end of 2024.





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Cross-Reference List  
KRT3B → KRT3C



# Phase Out KRTM 3B, KRTW 3B, KRTL 3B

## List of suitable successor products in KRT3CM, KRT3CW, KRT3CL



- All KRT3B products will be phased out at **31.12.2023** – Exception KRT3B with IO-Link will be phased out at **31.12.2024**
- As suitable successor products we now offer KRT3C

→ The new KRT3C of Generation C is fully compatible to the old KRT3B

Article number	Name	Successor Product	Article number	Name	Difference from KRT3C vs. KRT3B	Start of Sales KRT3C
<b>White Light</b>	<b>KRTW 3B</b>			<b>KRT3CW</b>		
-	-	→	<b>50148505</b>	<b>KRT3CW.L3S2/LG-M8</b>	New IO-Link V1.1 COM3	
50110572	KRTW 3B/4.1110-S8	→	50148507	KRT3CW.L3S2/4T-M8	10 kHz instead of 6 kHz, additional Teach input on Pin 2	03.04.2023
50110575	KRTW 3B/2.1110,200-S12	→	50148507	KRT3CW.L3S2/2T-200-M12	10 kHz instead of 6 kHz	03.04.2023
50110576	KRTW 3B/4.1121-S8	→	50148507	KRT3CW.L3S2/4T-M8	-	03.04.2023
50110579	KRTW 3B/2.1121,200-S12	→	50148512	KRT3CW.L3S2/2T-200-M12	-	03.04.2023
50110580	KRTW 3B/4.1321-S8	→	50148511	KRT3CW.L3S1/4T-M8	-	03.04.2023
50110582	KRTW 3B/4.1321,200-S12	→	50148510	KRT3CW.L3S1/4T-200-M12	-	03.04.2023
50111319	KRTW 3B/6.1121-S8	→	50148509	KRT3CW.L3S2/6T-M8	Without IO-Link	03.04.2023
50111320	KRTW 3B/6.1321-S8	→	50148508	KRT3CW.L3S1/6T-M8	Without IO-Link	03.04.2023
50111769	KRTW 3B/4.2121-S8	→	50148513	KRT3CW.Q3S2/4T-M8	-	03.04.2023
50112958	KRTW 3B/4.1122-S8	→	50148507	KRT3CW.L3S2/4T-M8	Additional Teach input on Pin 2	03.04.2023
50137971	KRTW 3B/4.1321	→	50148506	KRT3CW.L3S1/4T	-	03.04.2023

# Phase Out KRTM 3B, KRTW 3B, KRTL 3B

## List of suitable successor products in KRT3CM, KRT3CW, KRT3CL



Article number	Name	Successor Product	Article number	Name	Difference from KRT3C vs. KRT3B	Start of Sales KRT3C
<b>Multicolor</b>	<b>KRTM 3B</b>			<b>KRT3CM</b>		
50144035	KRTM 3B/L6.1127-S8	➔	<b>50148488</b>	<b>KRT3CM.L3S2/LG-M8</b>	New IO-Link V1.1 COM3	
50110584	KRTM 3B/4.1121-S8	➔	50148492	KRT3CM.L3S2/4T-M8	-	03.04.2023
50110585	KRTM 3B/2.1121-S8	➔	50148497	KRT3CM.L3S2/2T-M8	-	03.04.2023
50110586	KRTM 3B/4.1121,200-S12	➔	50148490	KRT3CM.L3S2/4T-200-M12	-	03.04.2023
50110588	KRTM 3B/4.1221-S8	➔	50148494	KRT3CM.L3D2/4T-M8	-	03.04.2023
50110589	KRTM 3B/2.1221-S8	➔	50148498	KRT3CM.L3D2/2T-M8	-	03.04.2023
50110590	KRTM 3B/4.1221,200-S12	➔	50148493	KRT3CM.L3D2/4T-200-M12	-	03.04.2023
50111312	KRTM 3B/6.1121-S8	➔	50148491	KRT3CM.L3S2/6T-M8	Without IO-Link	03.04.2023
50111768	KRTM 3B/4.2121-S8	➔	50148496	KRT3CM.Q3S2/4T-M8	-	03.04.2023
50113785	KRTM 3B/4.1121,200-S8	➔	50148489	KRT3CM.L3S2/4T-200-M8		03.04.2023
50116788	KRTM 3B/6.0001-S8	➔	50148491	KRT3CM.L3S2/6T-M8	-	03.04.2023
50118393	KRTM 3B/6.2121-S8	➔	50148495	KRT3CM.Q3S2/6T-M8	Without IO-Link	03.04.2023
<b>Laser</b>	<b>KRTL 3B</b>			<b>KRT3CL</b>		
-	-	➔	<b>50148499</b>	<b>KRT3CL1.3S2/LG-M8</b>	New IO-Link V1.1 COM3	
50110592	KRTL 3B/4.3111-S8	➔	50148502	KRT3CL1.3S2/4T-M8	-	03.04.2023
50110593	KRTL 3B/2.3111-S8	➔	50148503	KRT3CL1.3S2/2T-M8	-	03.04.2023
50110594	KRTL 3B/4.3111,200-S12	➔	50148504	KRT3CL1.3S2/4T-200-M12	-	03.04.2023
50111321	KRTL 3B/6.3111-S8	➔	50148501	KRT3CL1.3S2/6T-M8	Without IO-Link	03.04.2023
50134932	KRTL 3B/4.3111	➔	50148500	KRT3CL1.3S2/4T	-	03.04.2023



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**KRT3C:  
Teach by wire via Pin 2**

# Phase Out KRTM 3B, KRTW 3B, KRTL 3B KRT3C: Teach by wire via Pin 2

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## KRT3C: Teach by wire via Pin 2



### *Sensor adjustments via the IN input (pin 2)*



The following description applies to PNP switching logic:

Signal level LOW  $\leq 2 \text{ V}$

Signal level HIGH  $\geq (U_B - 2 \text{ V})$

With types with NPN switching logic, the signal levels are inverted.

### Teach-in

To teach, a teach signal is applied to the teach input (pin 2). The duration of the teach signal (LOW level on the teach input) determines the teach-in function.

#### **NOTICE**



Before a LOW level is applied for teaching-in functions, a HIGH level must be applied for at least 20 ms.



# Phase Out KRTM 3B, KRTW 3B, KRTL 3B KRT3C: Teach by wire via Pin 2



## KRT3C: Teach by wire via Pin 2

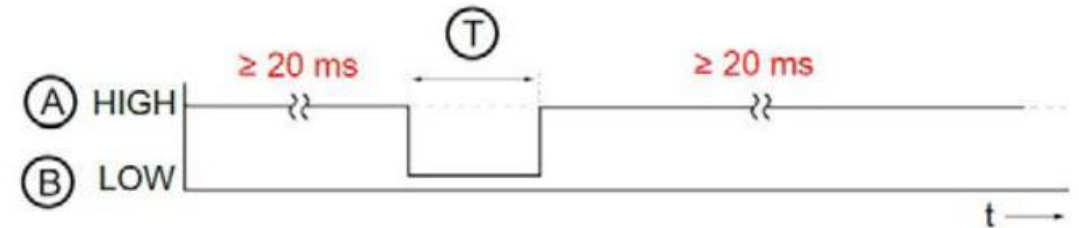
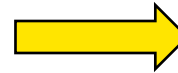
*Locking teach button via the IN input (pin 2)*

**i** A static HIGH signal ( $\geq 20$  ms) at the teach input locks the teach button on the device, such that no manual operation is possible (e.g. protection from erroneous operation or manipulation).

If the teach input is not connected or if there is a static LOW signal, the button is unlocked and can be operated freely.

- A Buttons locked
- B Buttons can be operated
- T Duration of the teach signal

Duration T [ms]	Function
20 ... 80	Standard-sensitivity teaching
120 ... 180	High-sensitivity teaching
220 ... 280	Activate pulse stretching
320 ... 380	Deactivate pulse stretching
420 ... 480	Configure the switching behavior of the switching output: light switching
520 ... 580	Configure the switching behavior of the switching output: dark switching



# Phase Out KRTM 3B, KRTW 3B, KRTL 3B KRT3C: Teach by wire via Pin 2

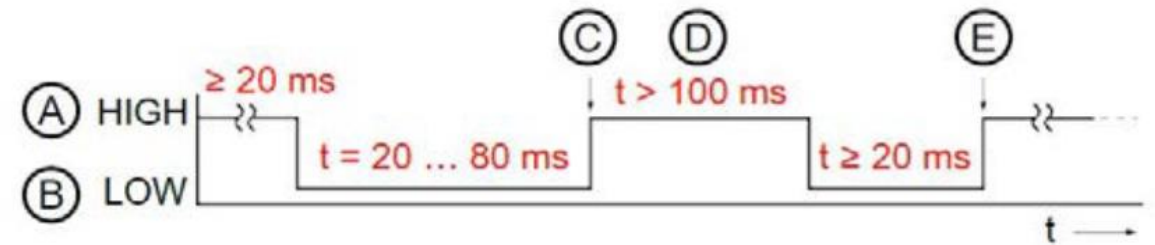
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## KRT3C: Teach by wire via Pin 2



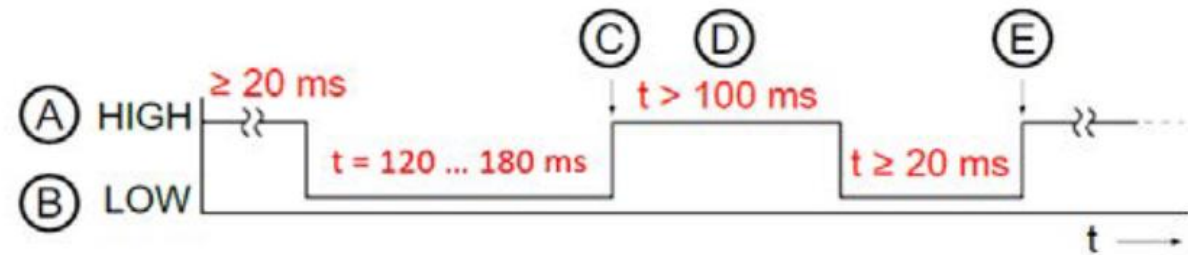
### Switching threshold in center / standard sensitivity

- A Buttons locked
- B Buttons can be operated
- C Teach is started – Accept 1st teach value (background, reference value / open measurement window)
- D Teach duration
- E Teach is ended – Accept 2nd teach value (mark / close measurement window)



### Switching threshold near the mark / high sensitivity

- A Buttons locked
- B Buttons can be operated
- C Teach is started – Accept 1st teach value (background, reference value / open measurement window)
- D Teach duration
- E Teach is ended – Accept 2nd teach value (mark / close measurement window)



## Note:

The application note should be read as a recommendation. Additional environmental influences occurring in the real applications must be taken into account before the integration.

Our application experts will assist you during commissioning.

## Any questions?



Technical Hotline:

You can find the contact details of our hotline for your country on our webpage:

[www.leuze.com](http://www.leuze.com) under „Contact & Support“

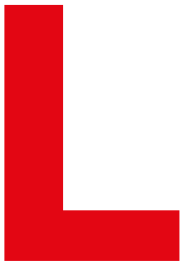


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