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PATENTED EP13156370 - EP1723303 EP1723304B1

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#### Chain actuator 300N

The strengths of Nekosproducts are recognised in all the actuators, but KATOwas and remains the parent product of the entire family. An idea made concrete in practice. Formany years, it has been used by manufacturers of windows, dome rooflights and attic windows, by electricians and in special applications.

·Brackets for quick fitting of the actuator in its working position, variable strokes that can be selected electronically, easy chain to window attachment (Nekospatent) and the relax function are the main and defining characteristics that distinguish KATO and all other actuators developed after it.

• Compact overall dimensions, only 37x59 cm in section; the body and the brackets are made from strong composite material (glass fibre-reinforced polyamide).



Actuator for Coordinated Synchronisation



•Kato Syncro<sup>3</sup> is an evolution of the original Nekospatent. It allowsperfectly coordinated synchronisation of up to 8 actuators without the use of external control units.

• Syncro3 is the only true window actuator synchronisation device available on the market and is only one of several patents registered by Nekos, confirming the high technological level reached by the company and its R&D department.



MODEL	KATO230	KATO24
Thrust and traction force	30	0 N
Strokes (can be selected at any time)	110,200,30	00, 400 mm
Power supply voltage	230V~ 50Hz	24V DC
Rated absorbed current	0,25 A	0,9 A
Power absorbed at nominal load	~27 W	~22 W
No load speed	14,6mm/s	14,6 mm/s
Duration of no load stroke (400 mm)	27 s	27 s
Electrical insulation	ClassII	Class III (Selv)
Type of service	2 cycles	5 cycles
Workingtemperature	- 5 +	65 °C
Protection index for electrical devices	IF	°30

djustment of connection to	window frame	Automatic defi	nition of position	
onnection in parallel of two	o or more motor	s Yes(n	nax 20)	
ynchronised function		1	No	
olding nominal force (it can vary according to the chosen brackets)				
		16	00 N	
troke-end at opening	Electronicwith	egulation by me	eansof dip-switches	
troke-end at closing		At absorpt	ion of power	
ignalling 'window open/wir	ndow closed'	1	No	
ength of power cable		2	m	
imensions	386,5x59x37 mm		9x37 mm	
/eight		0,98	0,97	

MODEL	SYNCRO <sup>3</sup> 230	SYNCRO <sup>3</sup> 24
Thrust and traction force	300 N	
Strokes (canbe selected at any time)	100,200, 400 mm	
Power supply voltage	110-230V~50/60Hz	24V DC
Rated absorbed current	0,34-0,21A	0,95 A
Power absorbed at nominal load	~26-27 W	~23 W
No load speed	8,9 mm/s	8,9 mm/s
Duration of no load stroke (400 mm)	44 s	44 s
Electrical insulation	Class II	Class III (Selv)
Type of service	2 cicli	5 cicli
Working temperature	- 5 + 65 °C	
Protection index for electrical devices	IP30	

Adjustment of connection to window frame Automatic definition of position Connection in parallel of two or more motors Yes (max 10) YES(mod. Syncro3- max 8) Synchronised function Holding nominal force (it can vary according to the chosen brackets) 1600 N Stroke-end at opening Electronic with regulation by means of dip-switches

Stroke-end at closing At absorption of power Signalling 'window open/window closed' No 2.5 m Length of power cable 386.5x59x37 mm Dimensions Weight 1,15kg

#### APPLICATIONS

VASISTAS FRAME OUTWARD FRAME **PIVOTING FRAME** DOMES SKYLIGHTS **ROOF FRAME** 

CODE	MODEL	
6030504	KATOSyncro <sup>3</sup> 230V black	
6030505	KATOSyncro <sup>3</sup> 230V white	
6030506	KATOSyncro <sup>3</sup> 230V grey	
6050504	KATOSyncro <sup>3</sup> 24V black	
6050505	KATOSyncro <sup>3</sup> 24V white	
6050506	KATOSyncro <sup>3</sup> 24V grey	

#### **APPLICATIONS**

VASISTAS FRAME OUTWARD FRAME **PIVOTING FRAME** DOMES SKYLIGHTS **ROOF FRAME** 

CODE	MODEL	
6030001	KATO230V black	
6030002	KATO230V white	
6030003	KATO230V grey	
6050001	KATO24V black	
6050002	KATO24V white	
6050003	KATO24V grey	

			(51
230	SYNCRO324		





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## **KATO253**

Chain actuator 250N

A chain actuator for awning windows, hopper windows, flat roof domes and dormers. KATO253 is an ingenious evolution developed by Nekosto cater to market demands.Small, smart and affordable! Simple mechanical selection of two different strokes: 240 mm and 360 mm. Equipped with a microprocessor with the following functions:

Progressive power ramp.

Power control over the entire stroke.

•Simple and immediate stroke selection.

Relax function for releasing tension in mechanical parts after each stroke end.

Accessories compatible with the entire Kato series.

It has compact dimensions; the body and brackets are made from high-strength composite material (glassfibre-reinforced polyamide). This actuator also adopts the same patents as the chain actuators produced with Nekostechnology, both for the quick coupling actuator support and for the window fixings.



#### **APPLICATIONS**

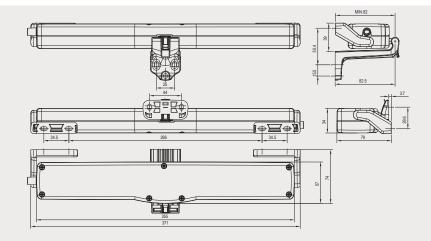
VASISTAS FRAME OUTWARD FRAME PIVOTING FRAME DOMES SKYLIGHTS ROOF FRAME TO BE USED KATO253 24V: WITH: KOUPLE 24V

Series KL and Series KL-R MODIX2/4/6 MY-SUN1and MY-SUN3

#### **TECHNICAL CHARACTERISTICS** (Functional and mechanical features)

•Electric actuator with double-row four-link articulated chain enclosed in a sturdy composite housing, suitable for opening awning windows, hopper windows, flat roof domes and dormers.

- Traction and thrust power 250N. Powered by 110-230V50/60Hz or, alternatively, 24V DC.It is supplied complete with screw-less quick coupling brackets (patented) and quick coupling awning or hopper window brackets (patented).
- Two opening strokes with mechanical selection. Stroke-end stop during opening and closing with absorption of power and as
  protection against overload.
- Can be connected in parallel. Complies with EU directives (EMCDirective, Low Voltage Directive).
- Standard Colours: Black (similar to RAL9004) with black power cable, White (similar to RAL9003) and Grey(similar to RAL7047) with white cable.



MODEL	KATO253 230V	KATO253 24V
Thrust and traction force	250	N
Strokes (canbe selected at any time)	240, 36	0 mm
Power supply voltage	110-230V~50/60Hz	24V DC
Rated absorbed current	0,42-0,21A	0,78 A
Power absorbed at nominal load	~ 23-20 W	~ 19W
Load speed	11,60mm/s	10,3mm/s
Duration of no load stroke (360 mm)	31s	35 s
Electrical insulation	ClassII	Class III (Selv)
Type of service	2 cycles	5 cycles
Workingtemperature	-5+6	35 °C
Protection index for electrical device	s IP4	0

Adjustment of connection to wind	ow frame Automatic defin	nition of position		
Connection in parallel of two or i	more motorsYES(max 3	0 actuators)		
Synchronised function	Not foreseen			
Holding nominal force (it can vary according to the chosen brackets)				
	150	00 N		
Stroke-end at opening	At absorpti	on of power		
Stroke-end at closing	At absorpti	on of power		
Length of power cable	1	m		
Dimensions	356x56x33,5 mm			
Weight	0,84 Kg	0,82 Kg		

KATO253 230V: KOUPLE230V Series KH and Series KH-R RR2-M

CODE	MODEL
6030080	KATO 253230V stroke 240/360 black
6030081	KATO 253230V stroke 240/360 white
6030082	KATO 253230V stroke 240/360 grey
6050057	KATO 25324V stroke 240/360 black
6050058	KATO 25324V stroke 240/360 white
6050059	KATO 25324V stroke 240/360 grey





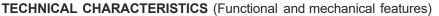


 The RWAversion of KATO305 has passed the toughest heat and fire resistance tests indicated by standard EN12101-2:2003-09 with flying colours, obtaining B 300 classification with certificate no. 13-000921 at the IFT testing institute in Rosenheim in 2013.

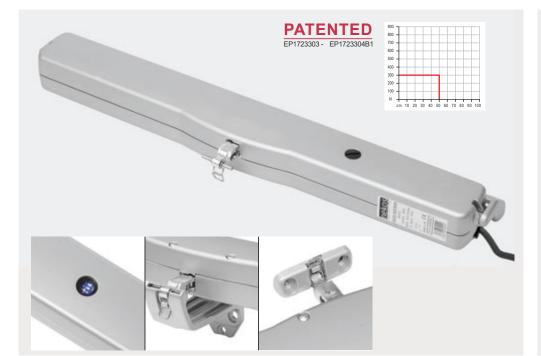
- •KATO305 actuators ensure safety, quality, efficiency, reliability and simplicity of construction, in an attractive design for incorporation into state-of-the-art windows.
- They have new electronic technology with a microprocessor for position control and management of all phases of operation. The body is made of die cast aluminium and the brackets are zinc alloy.
- They are easy to install, thanks to quick-coupling installation on the support brackets and no need for screws or fixings (Nekospatented system); another Nekospatent is the quick release of the window for easy cleaning.

Strokes can be selected through dip-switches.





- •Electric linear actuator with double-rowfour-link articulated chain enclosed in a sturdy aluminium housing, suitable for opening awning windows, hopper windows, dome rooflights and dormers. Thrust and traction power 300 N.
- Built to operate at 110-230V50/60Hz voltage or, for RWAsystems, at 24V DCSafety ELV (SELV)-voltage, in accordance with European Standard EN12101-2.
- Supplied complete with universal quick-coupling, screw-less pivoting support brackets (patented).
- Electronic opening stroke-end with three strokes (200 300 500 mm), which can be selected at any time with dip switches; closing end-stroke with power absorption as protection against overload. Soft Stop and Relax Functions.
- Can be connected in parallel. Complies with EU directives (EMCDirective, Low Voltage Directive).
- Standard colours: Black (RAL9005) with black power cable, White (RAL9010) and Grey (RAL9006) with white cables. The 24V versions have a grey silicone cable.
- · Window brackets must be requested separately.

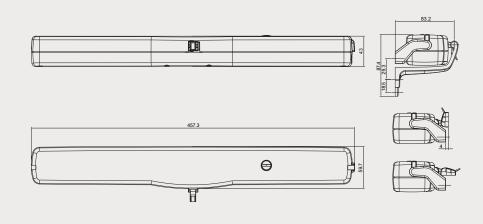


#### **APPLICATIONS**

VASISTAS FRAME OUTWARD FRAME PIVOTING FRAME DOMES SKYLIGHTS ROOF FRAME

#### TO BE USED KATO305|RWA24V: WITH: BK-LOCK Series KL and Series KL-R

FV3 - FV6 FV 25-50-75 MODIX2/4/6



MODEL	230V	RWA24V
Thrust and traction force	30	10 N
Strokes (can be selected at any time)	200,300	,500 mm
Power supply voltage	110-230V~50/60H	lz 24V DC
Rated absorbed current	0,32 -0,21A	0,950 A
Power absorbed at nominal load	25-28 W	23 W
No load speed	9,2 mm/s	9,2 mm/s
Duration of no load stroke (500 mm)	54 s	54 s
Electrical insulation	ClassII	Class III (Selv)
Type of service	2 cycles	5 cycles
Working temperature	- 5 +	65 °C
Protection index for electrical devices	IF	P32

#### KATO305230V: Series KH and Series KH-R RR2-M

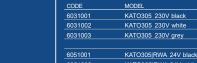
	20	00 N
Stroke-end at opening	Electronic by means of	of dip-switches
Stroke-end at closing	At absorpt	ion of power
Signalling 'window open/window close	1 'be	No
Length of power cable	2	! m
Dimensions	456x60	x43 mm
Weight	1,55 Kg	1,65 Kg

Adjustment of connection to window frame Automaticdefinitionof position

Holding nominal force (it can vary according to the chosen brackets)

YES(max 10) YES(mod. Syncro3- max8)

Connection in parallel of two or more motors



Synchronised function

 6051002
 KATO305|RWA 24V white

 6051003
 KATO305|RWA 24V grey

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WINDOW & DOOR ACCESSORIES LIMITED

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•The Syncro<sup>3</sup>version, basedon communication between the actuators through a direct connection, allows instantaneous control of the force, speed and resistance of each of them through an encoder that reads the work of the individual motors. This continuous exchangeof information allows the actuators to open and close in synchrony.

• Syncro<sup>3</sup>software now allows you to directly connect up to 8 motors without the need for external synchronisation units.

•The designer must calculate the number of actuators to place on the windows, which varies according to the size, weight and type of the windows.

Strokes can be selected through dip-switches.

KATO305|RWA Syncro KATO305 Syncro 24V



#### **TECHNICAL CHARACTERISTICS** (Functional and mechanical features)

•Electric linear actuator with double-row four-link articulated chain enclosed in a sturdy aluminium housing, suitable for opening awning windows, hopper windows, dome rooflights and dormers. Thrust and traction power 300 N.

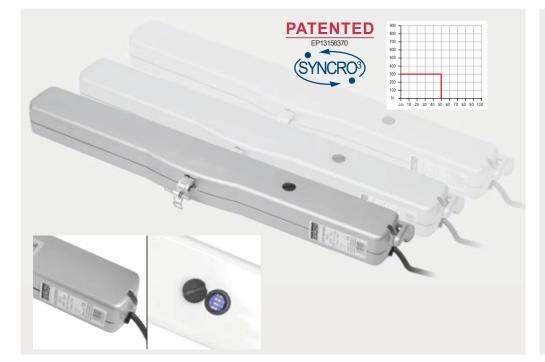
- Built to operate with 110-230V50/60Hz voltage or 24V DCSafety ELV (SELV)voltage RWA systems, in accordance with European Standard EN12101-2.
- · Supplied complete with universal quick-coupling, screw-free pivoting support brackets (patented).

• Electronic opening stroke-end with three strokes (200 - 300 - 500 mm), which can be selected at any time with dip switches; closing end-stroke with power absorption as protection against overload. Soft Stop and Relax Functions.

· Can be connected in parallel. Complies with EU directives (EMCDirective, Low Voltage Directive).

• Standard Colours: Black (RAL9005) with black power cable, White (RAL9010) and Grey (RAL9006) with white cables. The 24V versions have a grey silicone cable.

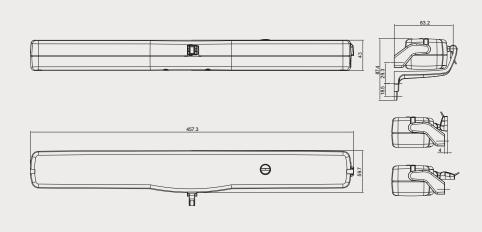
· Window brackets must be requested separately.



**APPLICATIONS** 

VASISTAS FRAME OUTWARD FRAME **PIVOTING FRAME** DOMES SKYLIGHTS **ROOF FRAME** 

TO BE USED | KATO305|RWA Syncro24V: **BK-LOCK** WITH: Series KL and Series KL-R FV3 - FV6 FV 25-50-75 **MODIX2/4/6** 



MODEL	230V	RWA24V	
Thrust and traction force	300	N	Adjustment of cor
Strokes (can be selected at any time)	200,300,50	0 mm	Connection in para
Power supply voltage	110-230V~50/60Hz	24V DC	Synchronised fund
Rated absorbed current	0,32 -0,21A	0,950 A	Holding nominal for
Power absorbed at nominal load	25-28 W	23 W	
No load speed	9,2 mm/s	9,2 mm/s	Stroke-end at ope
Duration of no load stroke (500 mm)	54 s	54 s	Stroke-end at clos
Electrical insulation	ClassII	Class III (Selv)	Signalling 'windov
Type of service	2 cycles	5 cycles	Length of power c
Working temperature	- 5 + 65	5 °C	Dimensions
Protection index for electrical devices	IP32	2	Weight

#### KATO305 Syncro230V: Series KH and Series KH-R RR2-M

Adjustment of connection to window fran	neAutomatic defini	tion of position
Connection in parallel of two or more mo	tors YES(max 10)	
Synchronised function	YES(mod. Syncro <sup>3</sup> - max 8)	
Holding nominal force (it can vary accord	ding to the chosen b	rackets)
	200	N C
Stroke-end at opening	Electronic by mean	ns of dip-switches
Stroke-end at closing	At absorption of power	
Signalling 'window open/window closed'	No	
Length of power cable	2,5 m	
Dimensions	456x60x43 mm	
Weight	1,55 Kg	1,65 Kg

CODE	MODEL	
6031504	KATO305 230V Syncro <sup>3</sup> black	
6031505	KATO305 230V Syncro <sup>3</sup> white	
6031506	KATO305 230V Syncro <sup>3</sup> grey	
6051504	KATO305 RWA 24V Syncro <sup>3</sup> black	
6051505	KATO305 RWA 24V Syncro <sup>3</sup> white	
6051506	KATO305 RWA 24V Syncro <sup>3</sup> grey	





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### Chain actuator 200N

A flush-mounted electric chain actuator for awning windows,hopper windows and dormers. Kimo is a latest generation actuator equipped with a microprocessor that can be combined with a building automation system. It includes the following features:
 A progressivestarting ramp and power control over the entire stroke.

Intuitive and immediate stroke selection with dip-switches.

Relax function, with release of tension on mechanical parts after each stoke-end generated by a mechanical lock.
 Nekos patented chain.

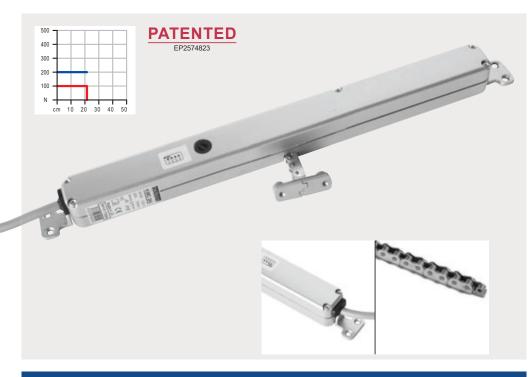
Flush-mounted window brackets that allow the motor to be inspected, even during a power outage or product failure.
 Intelligent, compact and robust (built entirely of metal), it is the smallest commercially available window actuator. Combined with the BK-LOCKandthe perimeter fittings, it provides a burglar-proof window lock. Canbe flush mounted in any European groove profile. It fixes to the frame with two brackets. Extremely quiet (42 dBA) and sturdy, with compact dimensions.

#### TECHNICAL CHARACTERISTICS (Functional and mechanical features)

•Electric actuator with a three-link articulated chain (Nekospatent), enclosed in a sturdy metal housing, suitable for opening and closing awning and hopper windows. Traction power 200 N, thrust 100 N, operates only at Safety ELV (SELV)voltage (24V DC).

Supplied complete with screw-lesspivoting support brackets and a universal coupling bracket for awning and hopper windows.
Opening stroke-end can be adjusted at any time by selecting the dip-switches, closing stroke-end with power absorption as protection against overload.

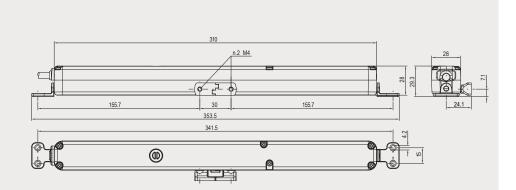
- Can be connected in parallel. Complies with EU directives (EMCDirective, Low Voltage Directive).
- Comesin only one colour: Grey(RAL9006) with a grey silicone cable.



#### **APPLICATIONS**

VASISTAS FRAME OUTWARD FRAME PIVOTING FRAME ROOF FRAME TO BE USED BK-LOCK WITH: Series KLandSeries KL-R

MODIX2/4/6 MY-SUN1and MY-SUN3 ALI'SW



MODEL	KIMO - 24V	
Thrust force	100N	Relaxf
Traction force	200N	Adjustr
Strokes(canbeselectedatanytime)	70.125.170.210 mm	Conne
Powersupplyvolta		Opera
Ratedabsorbedcurr		Syn
Powerabsorbedatnomina		Holding
Load speed	5.5 mm/s	
Durationofloadstroke(2	10mm)38s	Strol
ElectricalinsulationCl		Stro
Type of service	5 cvcles	Ler
Workingtemperatur	e-5+65°C	Chain e
Protectionindexforelectrical		Dimens
Soft Stop	NO	Weight

Relaxfunction YES
Adjustmentof connectiontowindowframeAutomaticdefinition of positio
Connection in parallel of two or more motorsYES(max 20 actuators)
OperationwithBK-LOCKelectromechanicallockYes
SynchronisedfunctionNotforeseen
Holding nominal force (it can vary according to the chosen brackets)
1700 N
Stroke-endatopeningElectronicbydip-switch
Stroke-endatclosingAtabsorptionofpower
Lengthofpowercable2m
Chain exit central
Dimensions 29x29x310 mm
Weight 0,720 Kg

# CODE MODEL 6050072 Actuator KIMO24V -max.stroke 210mm



## KATO ADV Radio

**Remote-controlled** Actuator 230V

•KATOADV Radio is the radio-controlled evolution of the KATOfamily.

• It has the samebody but a different and evolved intelligence. Complete with a radio frequency receiver integrated in the actuator body, it is suitable for installation wherever there is a need for remote control, through the PIKRadio Remote Control unit with rolling code technology.

It can be connected to a bidirectional up-down switch.

• Use together with the NRS1raindetector allows automatic closing of the window by wire signal in the event of rain, without need for additional control units.



MODEL	KATO ADV RADIO		
Thrust and traction force	300 N	Workingtemperature	- 5 + 65 °C
Strokes (can be selected at any time)	100,200, 300, 400 mm	Protection index for electrical de	evices IP30
Power supply voltage	110-230V~50/60Hz	Adjustment of connection to windo	w frame Automatic definition of position
Current consumption at nominal charge	0,31-0,24A	Holding nominal force (it can var	ry according to the chosen brackets)
Current consumption with no charge	0,084-0,042 A		1600 N
Charge absorbed at nominal load	23-27 W	Connection in parallel of two or r	more motors Yes
No load speed	15,7mm/s	Stroke-end at opening	Electronic by means of dip-switches
No load duration (400 mm)	25 s	Stroke-end at closing	At absorption of charge
Electrical insulation	ClassII	Dimensions	386,5x59x37
Type of service	2 cycles	Weight	1,00 kg

#### **APPLICATIONS**

VASISTAS FRAME OUTWARD FRAME **PIVOTING FRAME** DOMES SKYLIGHTS **ROOF FRAME** 

KATOADV Radio black
KATOADV Radio white
KATOADV Radio grey
NRS1Heated Rain sensor
PIK Remote control

#### KATO SERIES TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- •Electric actuator with a double-row four-link articulated chain enclosed in a sturdy composite material housing (glass fibre-reinforced polyamide). Suitable for opening awning windows, hopper windows, dome rooflights and dormers. • Traction and thrust power 300N. Powered by 110-230V50Hz or, alternatively, 24V DCSafety ELV (SELV)voltage.
- · Supplied complete with screw-lessquick coupling actuator mounting brackets (patented) and quick coupling/release awning or hopper window brackets (patented).
- Stroke-end:electronic opening stroke-end with variable strokes that can be selected at any time with the dip-switches. Closing stroke-end with power absorption.
- · Can be connected in parallel. Complies with EU directives (EMCDirective, Low Voltage Directive).

TO BE USED KATO and KATO SYNCRO<sup>3</sup> 24V:

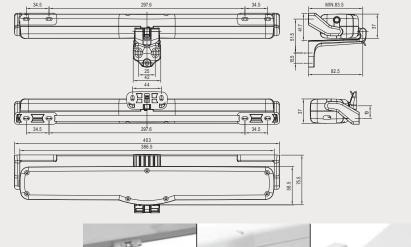
MODIX2/4/6

Series KL and Series KL-R

MY-SUN1and MY-SUN3

WITH: BK-LOCK

• Standard colours: Black (ref. RAL9004) with black power cable, White (ref. RAL9003) and Grey (ref. RAL7047) with white cable.





KATO and KATO SYNCRO<sup>3</sup> 230V: Series KH and Series KH-R RR2-M

KATO ADV RADIO 230V: PIK NRS1



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