Controllers and controller stations

The range of controllers type **XK**

Controllers XKB

For “light hoisting” applications

Controllers XKD

For “medium hoisting” applications

Controllers XKM

For “heavy hoisting” applications

Portable controller stations XJP and XJ9

For “heavy hoisting” applications

Fixed or rotating controller desks XJC

For “heavy hoisting” applications

Public works cranes, stocking, materials handling, etc.

Public works cranes

Cranes, overhead travelling cranes (iron and steelworks, rolling mills, etc.)

Overhead travelling cranes

Public works cranes

Controllers
For “light hoisting” applications, type **XKB**

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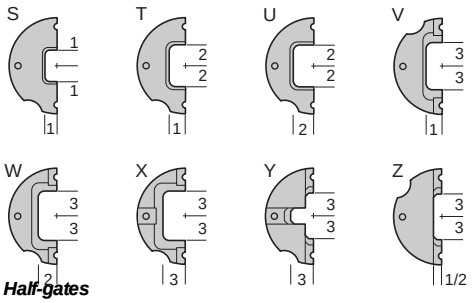
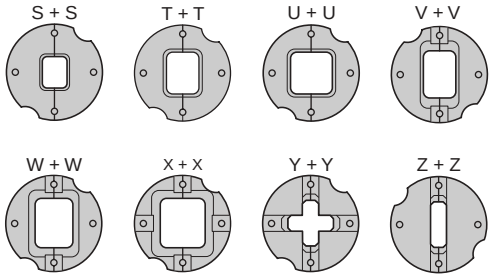
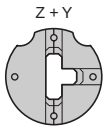
XKB ●



Half-gates





9 main combinations

Compact and lightweight units, designed to control “light hoisting” and materials handling equipment. Mainly for use in portable stations.
2 models:
- **XKB A**: controllers with predefined, non modifiable, scheme.
- **XKB E**: controllers with variable composition schemes.

Control lever
Length: 130 mm. Travel in each direction: 28° maximum.

Lever gate
Universal and modifiable.
Specific, by adding half-gates to the universal lever gate (referenced by letter) 9 main combinations. .

End stops
The total lever travel can be limited to 20° or 12° by using removable end stops (**XKB Z972** for 20°, **XKB Z971** for 12°) when the lever gate comprises half-gates Y or Z.

Handles
- Simple handle with zero (centre) position contact (closed at zero).
- Handle with zero (centre) position mechanical interlock + contact (closed at zero).
- “Dead man’s” handle with contact (open when handle released).
- Handle with built-in flush or projecting pushbutton and contact (open when pushbutton or handle released).

Note: it is important to decide which type of handle is required when selecting the controller, since modification cannot be affected after installation.

Electrical positions
3 positions maximum in each direction.

Types of lever movement
- **Notched positions, with stayput operation**: 3 notches maximum in each direction (12°, 20°, 28°).
- **Notched positions, with spring return to zero operation**: 3 notches maximum in each direction (12°, 20°, 28°). (XKB E: only 1 contact may be used at each notch.)
- **Unnotched positions, with spring return to zero operation**: 28° maximum travel in each direction. (XKB E: only 1 contact may be used for each spring return to zero position.)

Contacts
The contact blocks used for establishing the scheme are located in a monobloc assembly. There are 2 types:
- Block with 4 contacts per movement.
- Block with 4 contacts per movement + 1 zero (centre) position contact.

For both types, an additional contact is available. Its function depends on the type of handle.

Cam schemes
- **XKB A**: standard schemes can be established using predefined cams. These cams are moulded and cannot be modified.

2 versions:
- Using a block with 4 contacts per movement: 2 reversing cams and 2 function cams per movement.
- Using a block with 4 contacts per movement + 1 zero (centre) position contact: 2 reversing cams and 2 function cams per movement + 1 zero (centre) position cam.

- **XKB E**: special schemes can be established using snap-on cams (for each position) mounted on cam carriers. (overlapping contact operation is not possible).

2 versions:
- Using a block with 4 contacts per movement: 4 variable composition cams per movement.
- Using a block with 4 contacts per movement + 1 zero (centre) position contact: 4 variable composition cams per movement + 1 fixed composition zero (centre) position cam.

Legend
One 100 x 100 mm anodised aluminium legend plate with matt satin finish.
Standard “hoist-long travel” and “traverse-slew” symbols or text (to be stated on Order form, see page 30252/3).

Potentiometer adaptation
- 2 potentiometers maximum per movement when using block with 4 contacts per movement.
- 1 potentiometer maximum per movement when using block with 4 contacts per movement + 1 zero (centre) position contact.

Characteristics: page 30251/3
Order form: pages 30252/3 and 30252/4
Dimensions: page 30260/2

Controllers
For “light hoisting” applications, type **XKB**

Environment

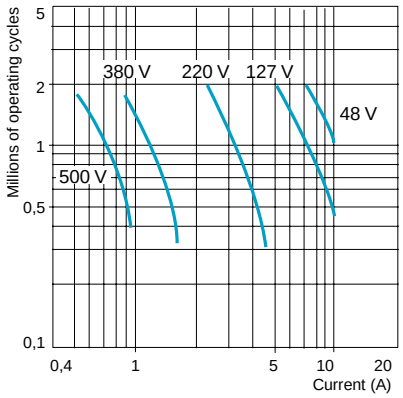
Conformity to standards			IEC 337-1, NF C 63-140, VDE 0660 part 2
Product certifications			XKB A: CSA ∿ 300 V “heavy duty”, ⎓ “standard duty”, ASE: 500 mV max., 10 A max., 100 VA max., USSR
Protective treatment			Standard version “TC”
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 20…+ 70
Operating position			All positions
Vibration resistance			6 gn (1 to 70 Hz)
Shock resistance	Conforming to IEC 68-2-27		20 gn, duration 11 ms
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Maximum operating lever force required in each direction		**daN**	< 1.7
Degree of protection	Conforming to IEC 529		IP 54 (unit with simple handle mounted in dust and damp proof enclosure)
Mechanical durability (In millions of operating cycles)			1 in each direction
Weight		**kg**	**XKB A** and **XKB E**: ≂ 0.850

Contact block characteristics

Type			Monobloc assembly comprising 9 double-break contacts (8 function contacts and 1 zero position contact mounted at lever base) or monobloc assembly comprising 11 double-break contacts (8 function contacts + 2 zero position contacts and 1 zero position contact mounted at lever base)
Conventional thermal current		**A**	10 conforming to IEC 337-1, NF C 63-140, VDE 0660, CSA C 22-2 n° 14
Rated insulation voltage		**V**	≂ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1
Insulation category			Group C conforming to NF C 20-040 and VDE 0110
Contact operation			Slow break, double-break contacts with positive opening operation; N/O (green operator). N/C contact (red operator): zero position contact mounted at lever base
Resistance across terminals		**mΩ**	⩽ 25 (in accordance with NF C 93-050, at 1 A)
Terminal referencing			Conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

a.c. supply ∿ 50-60 Hz
ᔓᔓ Inductive circuit



d.c. supply ⎓

Power broken in W for 1 million operating cycles

Voltage V	**24**	**48**	**120**
ᔓᔓ	90	90	75

Connection	Captive screw clamp terminals	Clamping capacity: □ minimum 1 x 0.5 mm^2, □ maximum, with or without cable end: 2 x 1.5 mm^2 or 1 x 2.5 mm^2, or by clips conforming to NF C 20-120

Order form:
pages 30252/2 to 30252/5

Dimensions:
page 30260/2

Controllers

For “light hoisting” applications, types **XKB A** and **XKB E**

Grid for composing the reference of a controller

Reference of controller type XKB

	Model	Contacts	Handle	Lever movement AB	Lever movement CD	Potentiometer adaptation
XKB						

Model

With predefined scheme	**A**
With variable composition scheme	**E**

Contact blocks

Block with 4 contacts per movement	Screw clamp terminal connections	**1**
	6.3 clip connections	**2**
Block with 4 contacts per movement + 1 zero (centre) position contact	Screw clamp terminal connections	**3**
	6.3 clip connections	**4**

Handle

Simple + zero (centre) position electrical interlocking (contact closed in rest position)	**1**
With zero (centre) position mechanical and electrical interlocking (contact closed in rest position)	**2**
“Dead man’s” type (contact open when released)	**4**
With built-in flush pushbutton (contact open in rest position)	**5**
With built-in projecting pushbutton (contact open in rest position)	**6**

Type of lever movement

On movement AB

Movement not required (blocked)	**0**
Notched positions, with stayput operation	**1**
Unnotched positions, with spring return to zero operation	**2**
Notched positions, with spring return to zero operation ***(1)***	**3**

On movement CD

Movement not required (blocked)	**0**
Notched positions, with stayput operation	**1**
Unnotched positions, with spring return to zero operation	**2**
Notched positions, with spring return to zero operation ***(1)***	**3**

Potentiometer adaptation

Without adaptation nor potentiometer		**0**
Adaptation only (without potentiometer)	On movement AB	**4**
	On movement CD	**5**
	On movements AB + CD	**6**
Adaptation + potentiometer ***(2)***	On movement AB	**7**
	On movement CD	**8**
	On movements AB + CD	**9**

(1) Type of lever operation recommended when using a potentiometer.
(2) Potentiometer type and value to be stated on the Order form. For standard application potentiometers, see page 30261/2.

Characteristics: page 30251/3
Dimensions: page 30260/2

Order form
(specimen suitable for photocopying)

See examples page 30252/4

Controllers
For “light hoisting” applications, type **XKB A**
Controllers XKB A with predefined, non modifiable schemes, factory assembled

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 30252/2)

			Model	Contacts	Handle	Lever movement AB	Lever movement CD	Potentiometer adaptation
Number of identical units		XKB	A					

For Schneider Electric Industries use only

Order N°	Item N°		MOD	ETI	POI	GLV	CTS	MAB	MCD	PAB	PCD
		XKB									

Lever gate
In accordance with the half-gates available, sketch and crosshatch the lever’s field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a “universal” gate.

Potentiometer adaptation
Cross ☒ the required position on the schemes below.

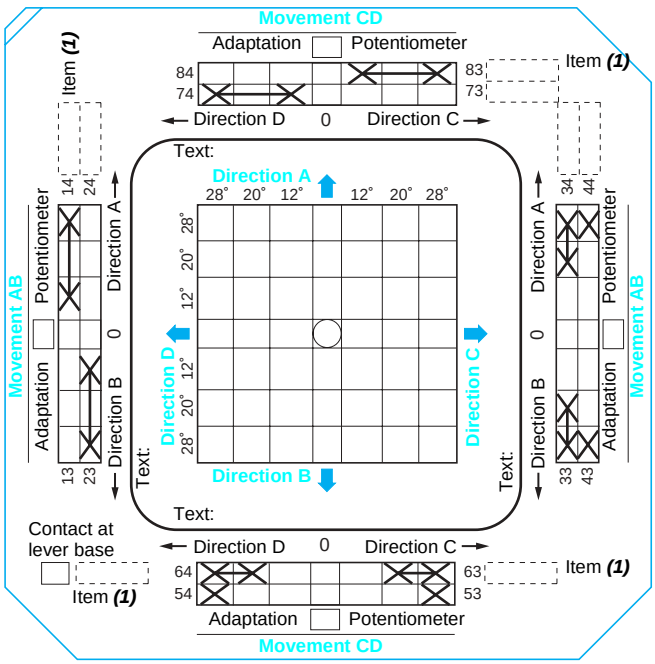
On movement AB	Type/size:
	Value:
On movement CD	Type/size:
	Value:

Legend

Without legend	
With blank legend **XKB Y1**	
With “traverse-slew” symbols, **XKB Y2**	
With “hoist-long travel” symbols, **XKB Y3**	
With specific engraved text, **XKB Y1001** (clearly state the text on the scheme below)	
Left-hand operated unit	
Right-hand operated unit	

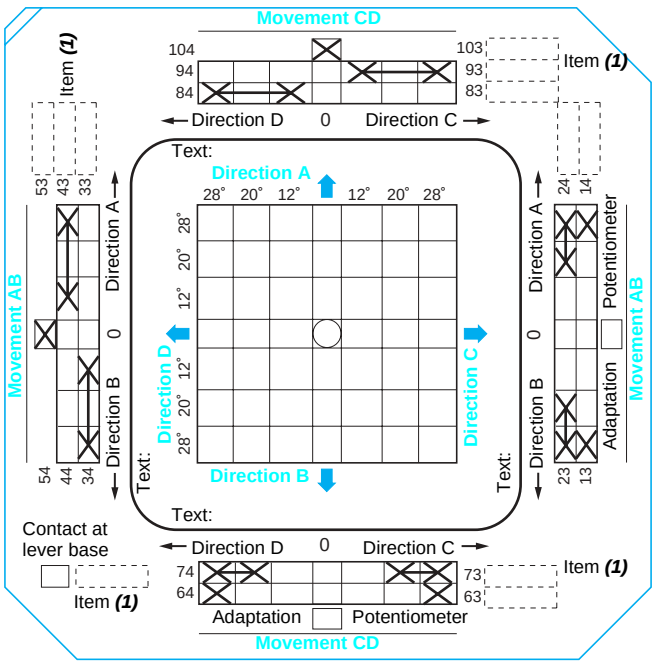
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locater



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement (viewed from above)

Orientation locater



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Characteristics: page 30251/3
Dimensions: page 30260/2

Order form
(specimen suitable for photocopying)

Controllers
For “light hoisting” applications, type **XKB E**
Controllers XKB E with variable and modifiable schemes, factory assembled

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 30252/2)

			Model	Contacts	Handle	Lever movement AB	Lever movement CD	Potentiometer adaptation
Number of identical units		**XKB**	**E**					

For Schneider Electric Industries use only

Order N°	Item N°		MOD	ETI	POI	GLV	CTS	MAB	MCD	PAB	PCD
		XKB									

Lever gate
In accordance with the half-gates available, sketch and crosshatch the lever’s field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a “universal” gate.

Potentiometer adaptation
Cross ☒ the required position on the schemes below.

On movement AB	Type/size:
	Value:
On movement CD	Type/size:
	Value:

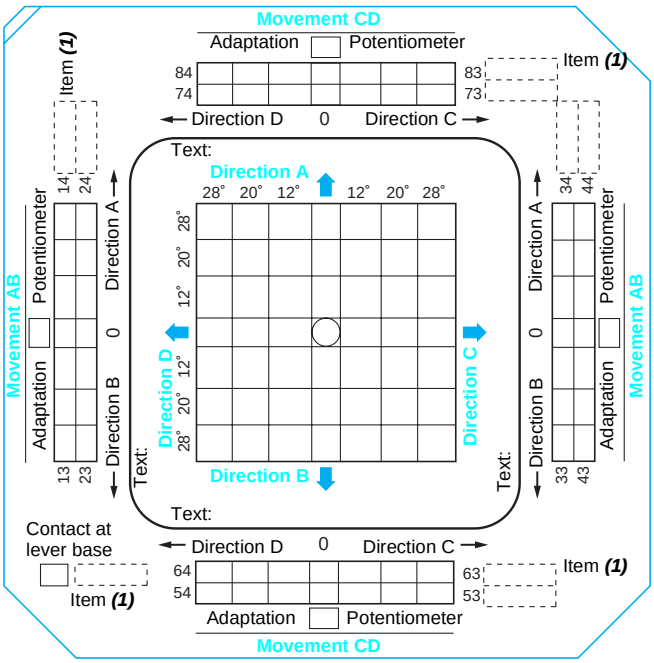
Legend

Without legend	
With blank legend, **XKB Y1**	
With “traverse-slew” symbols, **XKB Y2**	
With “hoist-long travel” symbols, **XKB Y3**	
With specific engraved text, **XKB Y1001** (clearly state the text on the scheme below)	
Left-hand operated unit	
Right-hand operated unit	

⚠ If the scheme is not defined, all **XKB E** controllers will be supplied with the standard scheme as used for XKB A.

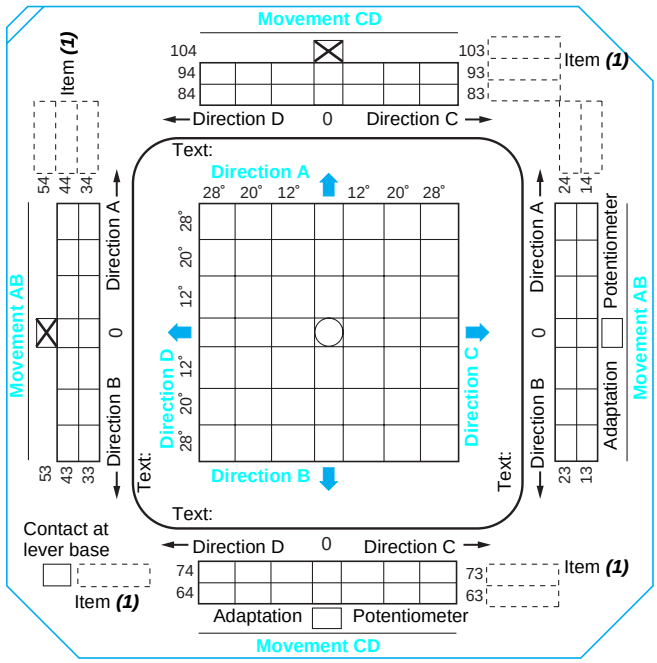
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locater



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement (viewed from above)

Orientation locater



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Spring return operation: only 1 contact can be used with spring return at each notch.

Order form example

Controllers

For “light hoisting” applications, type **XKB E**
Ordering form completion example

CONG TY CO PHAN THIET BI ĐIEN LONG NGUYEN
www.evnonline.vn – Tell 04 354 09147 – Mobile 0912290680

Requirement

A 2 movement controller:
“hoist-long travel”.
“Universal” lever gate, limited to 2 “lower” positions.

XKB

Model
With variable composition scheme (customised electrical scheme as shown below)

Contact blocks
Block with 4 contacts + 1 zero (centre) position contact per movement (screw clamp terminals).

Handle
“Dead man’s” type

Type of lever operation on movement AB
Unnotched positions, with spring return to zero operation

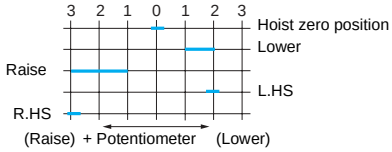
Type of lever operation on movement CD
Notched positions, with spring return to zero operation

Potentiometer adaptation
With adaptation device + potentiometer on movement AB, standard 4700 Ω, size 15, model

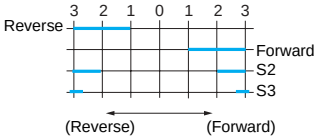
Composition of the reference (see page **30252/2**)

E	3	4	2	3	7
E	3	4	2	3	7

Electrical scheme for movement AB “hoist”



Electrical scheme for movement CD “long travel”



Lever gate

In accordance with the half-gates available, sketch and crosshatch the lever’s field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a “universal” gate.

Potentiometer adaptation

Cross ☒ the required position on the schemes below.

On movement AB
Type/size: XKZ A15047
Value: 4700 Ω

On movement CD
Type/size:
Value:

Legend

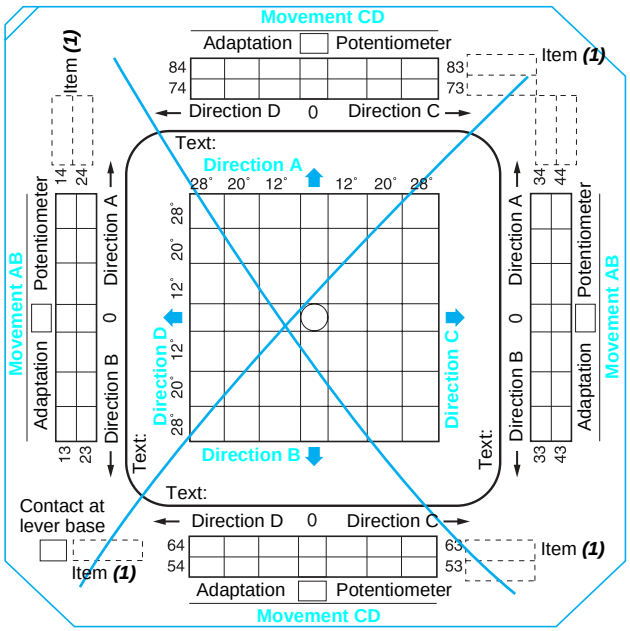
Without legend ☐
With blank legend, **XKB Y1** ☐
With “traverse-slew” symbols, **XKB Y2** ☐
With “hoist-long travel” symbols, **XKB Y3** ☐

With specific engraved text, **XKB Y1001**
(clearly state the text on the scheme below)
Left-hand operated unit ☐
Right-hand operated unit ☒

⚠ If the scheme is not defined, all **XKB E** controllers will be supplied with the standard scheme as used for XKB A.

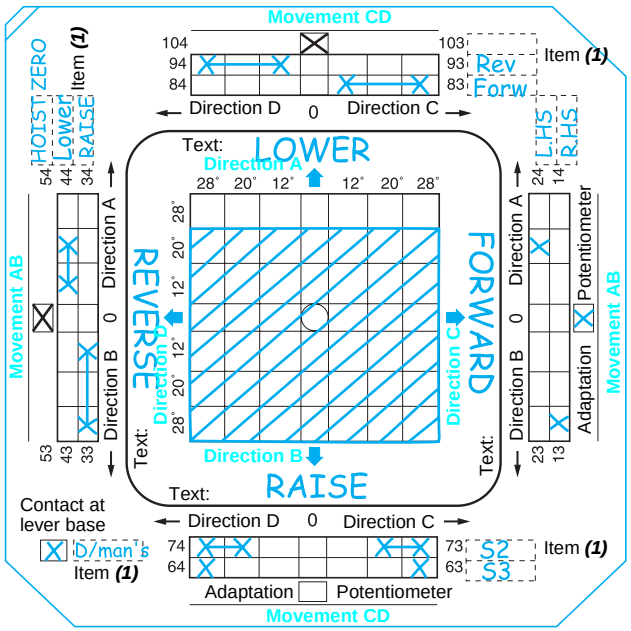
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locater



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement

Orientation locater



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Spring return operation: only 1 contact can be used with spring return at each notch.