## **SIEMENS**

Data sheet 3RH2131-1AP60



Contactor relay, 3 NO + 1 NC, 220 V AC, 50 Hz, 240 V, 60 Hz, Size S00, screw terminal

product brand name	SIRIUS
product designation	Auxiliary contactor
product type designation	3RH2
General technical data	
size of contactor	S00
product extension auxiliary switch	Yes
insulation voltage with degree of pollution 3 at AC rated value	690 V
degree of pollution	3
surge voltage resistance rated value	6 kV
shock resistance at rectangular impulse	
• at AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (switching cycles)	
<ul> <li>of contactor typical</li> </ul>	30 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code according to IEC 81346-2	K
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Main circuit	
no-load switching frequency	
• at AC	10 000 1/h
• at DC	10 000 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	220 V
at 60 Hz rated value	240 V
control supply voltage frequency	

• 1 rated value	50 Hz
• 2 rated value	60 Hz
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	37 VA
inductive power factor with closing power of the coil	0.8
apparent holding power of magnet coil at AC	5.7 VA
inductive power factor with the holding power of the coil	0.25
closing delay	
• at AC	8 33 ms
opening delay	
• at AC	4 15 ms
arcing time	10 15 ms
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
instantaneous contact	1
number of NO contacts for auxiliary contacts	3
instantaneous contact	3
identification number and letter for switching elements	31 E
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	10 A
at 400 V rated value	3 A
at 500 V rated value	2 A
at 690 V rated value	1 A
operational current at 1 current path at DC-12	40.4
• at 24 V rated value	10 A
• at 110 V rated value	3 A
at 220 V rated value     at 440 V rated value	1 A 0.3 A
<ul><li>at 440 V rated value</li><li>at 600 V rated value</li></ul>	0.15 A
operational current with 2 current paths in series at DC-12	0.10 A
• at 24 V rated value	10 A
at 60 V rated value	10 A
• at 110 V rated value	4 A
• at 220 V rated value	2 A
<ul><li>at 440 V rated value</li></ul>	1.3 A
• at 600 V rated value	0.65 A
operational current with 3 current paths in series at DC-12	
• at 24 V rated value	10 A
• at 60 V rated value	10 A
• at 110 V rated value	10 A
• at 220 V rated value	3.6 A
<ul><li>at 440 V rated value</li></ul>	2.5 A
at 600 V rated value	1.8 A
operating frequency at DC-12 maximum	1 000 1/h
operational current at 1 current path at DC-13	
• at 24 V rated value	10 A
at 110 V rated value	1 A
at 220 V rated value	0.3 A
at 440 V rated value     at 600 V rated value	0.14 A
at 600 V rated value     operational current with 2 current paths in series at	0.1 A
DC-13	
at 24 V rated value	10 A

at 10 V rated value at 120 V rated value at 20 V rated value at 21 V rated value at 21 V rated value at 220 V rated v	100 1/4 1/4 1/4	0.5.4
and 220 V rated value and 600 V rated value control tractional current with 3 current paths in series at 0.2 A 0.1 A 0.1 A 0.2 A 0.1 A 0.2 A 0.1 A 0.2 A 0.1 A 0.3 C V rated value 0.4 A 0.6 C V rated value 0.5 A 0.6 C V rated value 0.5 A 0.6 A 0.7 C V rated value 0.5 A 0.6 A 0.7 C V rated value 0.5 A 0.6 A 0.7 C V rated value 0.6 A 0.7 C V rated value 0.7 A 0.8 C V rated value 0.8 A 0.9 C V rated value 0.1 C V rated value 0.2 A 0.3 C V rated value 0.4 A 0.5 A 0.6 A 0.7 C V rated value 0.5 A 0.7 C V rated value 0.8 A 0.9 C V rated value 0.9 A 0.0 V rated value 0.0 C V rated value 0.0 C V rated value 0.0 A 0.0 V rated value 0.0 C V rated va	at 60 V rated value	3.5 A
at 440 V rated value at 800 V rated value at 24 V rated value at 20 V rated value at 30 V rated value at 20 V rated value at		
e at 600 V rated value operational current with 3 current paths in series at DC-13  at 24 V rated value at 60 V rated value 4.7 A at 10 V rated value 3. A at 24 V rated value 3. A at 22 V rated value 3. A		
poperational current with 3 current paths in series at DC-13  • at 24 V rated value • at 80 V rated value • at 110 V rated value • at 122 V rated value • at 150		
• at 24 V frated value • at 60 V frated value • at 60 V frated value • at 61 V frated value • at 62 V rated value • at 440 V rated value • operating frequency at DC-13 maximum		0.1 A
at 100 V rated value at 110 V rated value at 220 V rated value 1.2 A at 440 V rated value 2.3 A at 440 V rated value 2.5 A 3.6 A 3.7 A 3.7 A 3.8 A 3.8 A 3.9 A 3.0 A 3.		
at 110 V rated value at 220 V rated value at 440 V rated value 0.5 A 2.6 A 2.6 A 2.6 A 2.6 A 3.6 O V rated value 0.5 A 2.6 A 3.7 A 4.6 O V rated value 0.5 A 2.6 A 2.7 A 3.7 A 4.7 A 4.8 O V rated value 5. O V rated value 6. O V rated value 7. O V rated value rated rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 319	at 24 V rated value	10 A
a ta 220 V rated value at 440 V rated value b at 460 V rated value cesporating frequency at DC-13 maximum design of the ministure circuit up to 230 V contact rating roticuit up to 230 V contact rating of auxiliary contacts  1 faulty switching per 100 million (17 V, 1 mA)  1 faulty	<ul> <li>at 60 V rated value</li> </ul>	4.7 A
at 440 V rated value  operating frequency at DC-13 maximum  design of the miniature circuit breaker for short-circuit protection of the auxiliary contacts  ULCSA ratings  contact rating of auxiliary contacts  ULCSA ratings  contact rating of auxiliary contacts  ULCSA ratings  contact rating of auxiliary contacts occording to UL  Short-circuit protection  design of the use link for short-circuit protection of the auxiliary switch required  Installation froumuting / dimensions  mounting position  4-160" rotation possible on vertical mounting surface; can be tilted forward and backward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting surface and between dashing and sackward by 4-2.25" on vertical mounting	• at 110 V rated value	3 A
oparating frequency at DC-13 maximum  design of the ministure circuit breaker for short-circuit protection of the auxiliary contact valuality of auxiliary contacts protecting of auxiliary contacts  1 faulty switching per 100 million (17 V, 1 mA)  ULCSA ratings  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link for short-circuit protection of the auxiliary switch required  fussillation/ mounting/dimensions  mounting position  4-180° rotalion possible on vertical mounting surface; can be tilted forward and backward by ++ 22.5° on vertical mounting surface serve and snap-on mounting onto 35 mm standard mounting rail dopth  fastening method  screw and snap-on mounting onto 35 mm standard mounting rail  forwards  45 mm  dopth  73 mm  required spacing  • with side-by-side mounting  • of moverable on vertical mounting surface; can be tilted forward and backward by ++ 22.5° on vertical mounting surface serve and snap-on mounting onto 35 mm standard mounting rail  10 mm  • oparation of the surface of the standard mounting rail  10 mm  • of movards  10 mm  • of	<ul> <li>at 220 V rated value</li> </ul>	1.2 A
design of the ministure circuit breaker for short-circuit protection of the auxiliary contacts   1 faulty switching per 100 million (17 V, 1 mA)	<ul> <li>at 440 V rated value</li> </ul>	0.5 A
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V  contact reliability of auxiliary contacts  ULCSA ratings  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link for short-circuit protection of the auxiliary which required  Installation mounting (dimensions  mounting position  fastening method  height  fuse gL/gC: 10 A  screw and snap-on mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward and backward by +2-22.5° on vertical mounting surface; can be titled forward snap-on mounting onto 35 mm standard mounting rail height  ### A function of the standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on mounting onto 35 mm standard mounting rail forward snap-on forwards 10 mm  1		
protection of the auxiliary contacts Contact reliability of auxiliary contacts UL/GSA ratings Contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link for short-circuit protection of the auxiliary switch required Instaltation/mounting/dimensions mounting position  fastening method forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by ++-22.5° on vertical mounting surface; can be titled forward and backward by +		
Contact reliability of auxiliary contacts   1 faulty switching per 100 million (17 V, 1 mA)		C characteristic: 6 A; 0.4 kA
contact rating of auxiliary contacts according to UL  AB00 / Q800  Short-circuit protection  design of the fuse link for short-circuit protection of the auxiliary switch required  Installation mounting dimensions  mounting position  fastening method  fastening method  height  forward and backward by 4-/ 22.5" on vertical mounting surface; can be tilted froward and backward by 4-/ 22.5" on vertical mounting surface screw and snap-on mounting onto 35 mm standard mounting rail  fastening method  for mm  depth  73 mm  required spacing  with side-by-side mounting  with side-by-side mounting  with side-by-side mounting  forwards  10 mm  domma  downwards  - the side  for grounded parts  - forwards  10 mm  at the side  downwards  for line parts  forwards  for line parts  forwards  for minum  downwards  downwards  downwards  downwards  for minum  downwards  d	•	1 faulty switching per 100 million (17 V 1 mA)
contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position  fastening method height width 45 mm depth 73 mm required spacing  • with side-by-side mounting  • with side-by-side mounting  • for grounded parts  — forwards — at the side — downwards • for live parts — forwards — upwards — odwnwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side — downwards • for live parts — forwards — the side  Connections/ Torminals  type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  Safety related data  B10 value with high demand rate according to SN 31920 • with low demand rate according to SN 31920 • with low demand rate according to SN 31920 • with low demand rate according to SN 31920 • with low demand rate according to SN 31920 • with low demand rate according to SN 31920 • with low for proof test interval or service life according to 20 y		readity switching per 100 million (17 V, 1 m/y)
Short-circuit protection   design of the fuse link for short-circuit protection of the auxiliary switch required   mustalization/ mounting of mensions		A600 / Q600
design of the fuse link for short-circuit protection of the auxiliary switch required Installation/mounting/dimensions  mounting position  fastening method height width depth 73. mm  required spacing  • with side-by-side mounting — forwards — at the side — downwards — 10 mm — downwards — 10 mm — ownwards — 10 mm — ownwards — 10 mm — ownwards — at the side — downwards — 10 mm — ownwards — ownwards — 10 mm — ownwards — ownwards — ownwards — in mm — ownwards — ownw	, ,	
installation/ mounting/ dimensions  mounting position  fastening method  fastening method  festening method  forward and backward by 4/- 22.5° on vertical mounting surface; can be tilted forward and backward by 4/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm standard mounting rail  fequity  fequired spacing  • with side-by-side mounting  — forwards — upwards — upwards — at the side — downwards — at the side — downwards — the side — downwards — or rive parts — for rive parts — forwards — upwards — 10 mm — upwards — of or live parts — forwards — upwards — the side — downwards — upwards — the side — downwards — upwards — the side — downwards — upwards — to rive parts — forwards — upwards — the side — downwards — upwards — the side — downwards — upwards — the side — downwards — upwards — the side — for live parts — forwards — upwards — the side — downwards — the side — downwards — upwards — the side — for live parts — to rive parts — to rive parts — to mm  10 mm  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920  • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920		fuse al /aG: 10 A
mounting position  fastening method  height  fastening method  height  fastening method  fastening methad mounting rateaccord mounting method  fastening method  fastening method  fastening methad  fastening method  fastening methad mounting  fastening methad  fastening methad  fastening methad mounting  fastening  fastening methad  fastening methad  fastening  fastening  fastening methad  fastening  fastening methad  fastening  fas		
fastening method  height  width  depth  forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm standard mounting rail  57.5 mm  width  depth  73 mm  required spacing  • with side-by-side mounting  — forwards — upwards — downwards — at the side — for grounded parts — forwards — upwards — the side — downwards — at the side — downwards — the side — downwards — to mm  • for live parts — forwards — upwards — to mm  • for live parts — forwards — upwards — downwards — to mm  • for live parts — forwards — upwards — to mm  • for live parts — forwards — to mm  • for live parts — forwards — the side — downwards — to mm  • for live parts — forwards — to mm  • for live parts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  B10 value with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 T1 value for proof test interval or service life according to SN 31920  T1 value for proof test interval or service life according to SN 31920  T1 value for proof test interval or service life according to SN 31920	Installation/ mounting/ dimensions	
forward and backward by ++ 22.5" on vertical mounting surface screw and snap-on mounting onto 35 mm standard mounting rail height  ### S7.5 mm  ### width ### 45 mm  ### 73 mm  required spacing  ### with side-by-side mounting ### - forwards ### - upwards ### - downwards ### - downwards ### - for grounded parts ### - forwards ### - forwards ### - upwards ### - downwards ### - at the side ### - downwards ### - downwards ### - forwards ### - forwards ### - forwards ### - downwards ### - forwards ### - downwards ### - forwards ### - downwards ### - downward	-	
height width depth     45 mm       depth     73 mm       required spacing     • with side-by-side mounting       • forwards     10 mm       — upwards     10 mm       — downwards     10 mm       • for grounded parts     0 mm       — forwards     10 mm       — upwards     10 mm       — at the side     6 mm       — downwards     10 mm       • for live parts     10 mm       — downwards     10 mm       — upwards     10 mm       — downwards     10 mm       — at the side     6 mm       Connections/ Terminals     10 mm       type of electrical connection for auxiliary and control circuit     screw-type terminals       type of connectable conductor cross-sections     6 mm       • for auxiliary contacts     2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²       — solid or stranded     2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²       • at AWG cables for auxiliary contacts     2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²       • Setty related data     10 000 000; With 0.3 x le       proportion of dangerous failures     40 %       • with low demand rate according to SN 31920     73 %       failure rate [FIT] with low demand rate according to SN 31920     73 %       failure for proof test int		
width 45 mm  depth 73 mm  required spacing  • with side-by-side mounting  — forwards 10 mm  — downwards 10 mm  • for grounded parts  — forwards 10 mm  • for grounded parts  — the side 6 mm  — upwards 10 mm  • at the side 6 mm  — downwards 10 mm  • for live parts  — forwards 10 mm  • for live parts  — at the side 6 mm  Connections/ Terminals  type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  2x (20 16), 2x (18 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920 row this high demand rate according to SN 319		
depth     73 mm       required spacing <ul> <li>with side-by-side mounting</li> <li>forwards</li> <li>upwards</li> <li>downwards</li> <li>10 mm</li> </ul> upwards         10 mm           downwards         0 mm           efor grounded parts           for grounded parts           upwards         10 mm           upwards         6 mm           downwards         10 mm           efor live parts         10 mm           for live parts         10 mm           downwards         10 mm           downwards         10 mm           at the side         6 mm           Connections/ Terminals         10 mm           type of electrical connection for auxiliary and control circuit         screw-type terminals           type of connectable conductor cross-sections         6 mm           for auxiliary contacts         2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²           at AWG cables for auxiliary contacts         2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)           at AwG cables for auxiliary contacts         2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)           at (0.5 1.5 mm²), 2x (0.75 2.5 mm²)         2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)           with low demand rate according to SN 31920		
required spacing  with side-by-side mounting — forwards — upwards — downwards — at the side of or grounded parts — forwards — upwards — upwards — upwards — upwards — at the side — downwards — of mm — downwards — upwards — of mm — of or grounded parts — forwards — upwards — of mm — of muxiliary contacts — solid or stranded — finely stranded with core end processing — of at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts — solid or stranded — finely stranded with core end processing — of with light demand rate according to SN 31920 — at AWG cables for auxiliary contacts — solid or stranded — finely stra		
<ul> <li>with side-by-side mounting</li> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> <li>— for grounded parts</li> <li>— forwards</li> <li>— upwards</li> <li>— upwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> <li>— of mm</li> <li>— downwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— downwards</li> <li>— downwards</li> <li>— downwards</li> <li>— at the side</li> <li>— at the side</li> <li>— at the side</li> <li>— solid or stranded</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG cables for auxiliary contacts</li> <li>Safety rolated data</li> <li>B10 value with high demand rate according to SN 31920</li> <li>For with low demand rate according to SN 31920</li> <li>Fallure rate [FIT] with low demand rate according to SN 31920</li> <li>T1 value for proof test interval or service life according to</li> <li>20 y</li> </ul>	•	/3 mm
forwards		
- upwards - downwards - at the side of or grounded parts - forwards - upwards - at the side - downwards - at the side - downwards - at the side - downwards - for live parts - forwards - upwards - for live parts - forwards - upwards - downwards - upwards - downwards - at the side - downwards - at the side - downwards - at the side - for auxiliary and control circuit type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections - for auxiliary contacts - solid or stranded - finely stranded with core end processing - at AWG cables for auxiliary contacts  810 value with high demand rate according to SN 31920 proportion of dangerous failures - with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to  10 mm  10 mm  10 mm  10 mm  20 mm  2	, ,	10 mm
- downwards - at the side • for grounded parts - forwards - upwards - at the side - downwards - at the side - downwards - for live parts - forwards - upwards - for live parts - forwards - upwards - upwards - downwards - upwards - downwards - at the side - downwards - at the side - formards - upwards - downwards - at the side  Connections/ Terminals type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing • at AWG cables for auxiliary contacts  810 value with high demand rate according to SN 31920 proportion of dangerous failures • with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to  10 mm  10 mm  10 mm  5 em  6 mm  Connections/ Terminals 5 screw-type termi		
<ul> <li>at the side</li> <li>for grounded parts</li> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— forwards</li> <li>— upwards</li> <li>— upwards</li> <li>— downwards</li> <li>— upwards</li> <li>— odownwards</li> <li>— at the side</li> <li>6 mm</li> </ul> Connections/ Terminals type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections <ul> <li>• for auxiliary contacts</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG cables for auxiliary contacts</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG cables for auxiliary contacts</li> <li>Safety related data</li> </ul> B10 value with high demand rate according to SN 31920 <ul> <li>• with low demand rate according to SN 31920</li> <li>• with low demand rate according to SN 31920</li> <li>• with low demand rate according to SN 31920</li> <li>failure rate [FIT] with low demand rate according to SN 31920</li> </ul> T1 value for proof test interval or service life according to <ul> <li>20 y</li> </ul>	·	
• for grounded parts  — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — to fine parts — forwards — upwards — upwards — upwards — downwards — to mm  — at the side  Connections/ Terminals  type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  Safety related data  B10 value with high demand rate according to SN 31920 proportion of dangerous failures • with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to  10 mm  10 mm  10 mm  5 mm  6 mm  Connections/ Terminals  5 crew-type terminals  6 mm  6 mm  6 mm  7 crew-type terminals  9 crew-type terminals  10 mm  10 mm  10 mm  10 mm  10 mm		
- forwards 10 mm - upwards 6 mm - at the side 6 mm - downwards 10 mm  • for live parts - forwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 6 mm  Connections/ Terminals  Type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) - at AWG cables for auxiliary contacts 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  • at AWG cables for auxiliary contacts 2x (20 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920 40 % • with low demand rate according to SN 31920 73 %  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to SN 31920  T1 value for proof test interval or service life according to SN 31920  T1 value for proof test interval or service life according to SN 31920  T1 value for proof test interval or service life according to SN 31920		
- at the side - downwards - for live parts - forwards - upwards - upwards - downwards - at the side		10 mm
<ul> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> <li>type of electrical connection for auxiliary and control circuit</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG cables for auxiliary contacts</li> <li>at WG contacts</li> <li>at Contacts</li> <li>at WG contacts</li> <li>at Contacts</li> <li>at Contacts</li> <li>at Contacts</li> &lt;</ul>	— upwards	10 mm
• for live parts  — forwards — upwards — downwards — at the side  Connections/ Terminals  type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  B10 value with high demand rate according to SN 31920  proportion of dangerous failures • with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to  10 mm  10 mm  10 mm  20 mm  20 mm  20 crew-type terminals  20 x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  20 x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  20 x (20 16), 2x (18 14), 2x 12  20 y	— at the side	6 mm
- forwards - upwards - downwards - at the side  Connections/ Terminals  type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts - solid or stranded - finely stranded with core end processing • at AWG cables for auxiliary contacts  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  • at AWG cables for auxiliary contacts  2x (20 16), 2x (18 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920 proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to  T1 value for proof test interval or service life according to  10 mm  10 mm  10 mm  10 mm  20 mm  10 mm  20 mm  20 value terminals  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  2x (20 16), 2x (18 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920  • with low demand rate according to SN 31920  • with low demand rate according to SN 31920  1000 FIT  11 value for proof test interval or service life according to  20 y	— downwards	10 mm
- upwards - downwards - at the side  Connections/ Terminals  type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts  - solid or stranded - finely stranded with core end processing • at AWG cables for auxiliary contacts  B10 value with high demand rate according to SN 31920  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to  10 mm  10 mm  10 mm  6 mm  2x (co.s	• for live parts	
- downwards - at the side  Connections/ Terminals  type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts  - solid or stranded - finely stranded with core end processing • at AWG cables for auxiliary contacts  B10 value with high demand rate according to SN 31920  • with low demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to  Connections/6 mm  8 of mm  6 mm  6 mm  2 crew-type terminals  5 crew-type terminals  6 crew-type terminals  5 crew-type terminals  6 crew-type termi	— forwards	10 mm
- at the side  Connections/ Terminals  type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts  - solid or stranded - finely stranded with core end processing • at AWG cables for auxiliary contacts  B10 value with high demand rate according to SN 31920  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to  O mm  connectable connectable conductor screw-type terminals  screw-type terminals  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  2x (20 16), 2x (18 14), 2x 12  Safety related data  1 000 000; With 0.3 x le  proportion of dangerous failures  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  T1 value for proof test interval or service life according to  20 y	— upwards	10 mm
type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  B10 value with high demand rate according to SN 31920  proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to 20 y		
type of electrical connection for auxiliary and control circuit  type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  — solid or stranded 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  — finely stranded with core end processing • at AWG cables for auxiliary contacts  2x (20 1.5 mm²), 2x (0.75 2.5 mm²)  2x (20 16), 2x (18 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920  proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to 20 y		6 mm
type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded  — finely stranded with core end processing  • at AWG cables for auxiliary contacts   Safety related data  B10 value with high demand rate according to SN 31920  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  • with low demand rate according to SN 31920  1000 FIT  1000 FIT  1000 FIT		
<ul> <li>for auxiliary contacts  — solid or stranded  — finely stranded with core end processing  • at AWG cables for auxiliary contacts  Safety related data  B10 value with high demand rate according to SN 31920  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  • with high demand rate according to SN 31920  1000 000; With 0.3 x le  proportion of dangerous failures  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  T1 value for proof test interval or service life according to  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  2x (20 16), 2x (18 14), 2x 12  1000 000; With 0.3 x le  20 y</li> </ul>		screw-type terminals
<ul> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>— at AWG cables for auxiliary contacts</li> <li>B10 value with high demand rate according to SN 31920</li> <li>— with low demand rate according to SN 31920</li> <li>— with high demand rate according to SN 31920</li> <li>— with high demand rate according to SN 31920</li> <li>Failure rate [FIT] with low demand rate according to SN 31920</li> <li>T1 value for proof test interval or service life according to</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14), 2x 12</li> <li>1 000 000; With 0.3 x le</li> <li>40 %</li> <li>1 000 000; With 0.3 x le</li> <li>1 000 000; With 0.3 x le</li> </ul>		
<ul> <li>— finely stranded with core end processing <ul> <li>at AWG cables for auxiliary contacts</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14), 2x 12</li> </ul> </li> <li>Safety related data  <ul> <li>B10 value with high demand rate according to SN 31920</li> <li>with low demand rate according to SN 31920</li> <li>with high demand rate according to SN 31920</li> <li>with high demand rate according to SN 31920</li> <li>failure rate [FIT] with low demand rate according to SN 31920</li> </ul> </li> <li>T1 value for proof test interval or service life according to 20 y</li> </ul>	-	0: (0.5 4.5
at AWG cables for auxiliary contacts  2x (20 16), 2x (18 14), 2x 12  Safety related data  B10 value with high demand rate according to SN 31920  proportion of dangerous failures  with low demand rate according to SN 31920  with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to 20 y		
Safety related data  B10 value with high demand rate according to SN 31920  proportion of dangerous failures  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to 20 y		
B10 value with high demand rate according to SN 31920  proportion of dangerous failures  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to 20 y		ZA (ZU 10), ZA (10 14), ZX 1Z
proportion of dangerous failures		1,000,000: With 0,2 x lo
<ul> <li>with low demand rate according to SN 31920</li> <li>with high demand rate according to SN 31920</li> <li>failure rate [FIT] with low demand rate according to SN 31920</li> <li>T1 value for proof test interval or service life according to</li> <li>20 y</li> </ul>		1 000 000, Willi 0.3 x le
<ul> <li>with high demand rate according to SN 31920</li> <li>failure rate [FIT] with low demand rate according to SN 31920</li> <li>T1 value for proof test interval or service life according to</li> <li>20 y</li> </ul>		40 %
failure rate [FIT] with low demand rate according to SN 31920  T1 value for proof test interval or service life according to 20 y		
T1 value for proof test interval or service life according to  20 y	failure rate [FIT] with low demand rate according to SN	
	T1 value for proof test interval or service life according to	20 y

protection class IP on the front according to IEC 60529

IP20

touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front

Certificates/ approvals

## **General Product Approval**





Confirmation



**KC** 



**EMC** 

**Functional** Safety/Safety of Machinery

**Declaration of Conformity** 

**Test Certificates** 



**Type Examination** Certificate





Type Test Certificates/Test Report

Special Test Certificate

## Marine / Shipping













Marine / Shipping



Confirmation



## **Further information**

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RH2131-1AP60

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-1AP60

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1AP60

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RH2131-1AP60&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1AP60/char

Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2131-1AP60&objecttype=14&gridview=view1

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