## SIEMENS

## Data sheet

## 3RT2047-3XB40-0LA2



traction contactor, AC-3e/AC-3, 110 A, 55 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25\* Us, electronic drive, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S3

product brand name         SIRIUS           design of the product         Power contactor           design of the product         With extended operating range           product designation         3RT2           concrat technical data         S3           product extension         No           • function module for communication         No           • function module for communication         No           • action module for communication         No           • action module for communication         No           • action in module for communication         No           • action in the operating state         23.7 W           • action in circuit with degree of pollution 3 rated value         600 V           • of main circuit with degree of pollution 3 rated value         600 V           • of auxiliary circuit rated value         8 kV           • of auxiliary circuit rated value         90 V           • of auxiliary circuit rated value         1000 V		
design of the product     With extended operating range       product type designation     3RT2       General technical data     S3       product extension     No       • Incriton module for communication     No       • auxiliary switch     Yes       power loss [W] for rated value of the current     23.7 W       • at AC in hot operating state     23.7 W       • at AC in hot operating state     23.7 W       • at AC in hot operating state     23.7 W       • of and incruit with degree of pollution 3 rated value     1000 V       • of auxiliary circuit with degree of pollution 3 rated value     690 V       surger voltage resistance     8 kV       • of auxiliary circuit rated value     6 kV       e of auxiliary with bick typical     600 V       e at DC     6.7 g / 5 ms, 4g / 10 ms       shock resistance with sine pulse     0 0000       • of the contactor with added electronically optimized     1000 0000       • of contactor typical     10 000 000       • of the contactor with added alexit optimized     0 300/12/17       Ambient temperature     -40 +70 °C       • during operation     -40 +70 °C	product brand name	SIRIUS
product type designation         3RT2           Central technical data	product designation	Power contactor
General technical data     size of contactor     S3       product extension     • function module for communication     No       • auxiliary switch     Yes       power loss [W] for rated value of the current     • at AC in hot operating state     23.7 W       • at AC in hot operating state     7.9 W       insulation votage     1 000 V       • of main circuit with degree of pollution 3 rated value     1 000 V       • of main circuit with degree of pollution 3 rated value     6 6V       • of main circuit with degree of pollution 3 rated value     6 00 V       • of main circuit rated value     6 kV       • of auxiliary circuit rated value     6 00 V       • of auxiliary circuit rated value     6 00 V       • of contactor typical     0 00 V       • of contactor typical     1 0.6 g / 5 ms, 6.3 g / 10 ms       machanical service life (operating cycles)     1 0.000 000       • of contactor typical     1 0 000 000       • of the contactor with added electronically optimized auxiliary switch block typical     1 0 000 000       • of the contactor with added auxiliary switch block typical     0 000 00       • of the contactor with added auxiliary switch block typical     1 0 000 000       • of the contactor with added auxiliary switch block typical     0 000 00       • of the contactor typical     0 000 00       • of the contactor typical </th <td>design of the product</td> <td>With extended operating range</td>	design of the product	With extended operating range
size of contactor     S3       product extension     No       • function module for communication     No       • at AC in hot operating state     23.7 W       • at AC in hot operating state per pole     7.9 W       insulation voltage     1 000 V       • of main circuit with degree of pollution 3 rated value     600 V       surge voltage resistance     600 V       • of main circuit rated value     8 kV       • of auxiliary circuit with degree of pollution 3 rated value     680 V       surge voltage resistance     6 kV       • of auxiliary circuit with degree of pollution 3 rated value     6 kV       maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1     680 V       shock resistance at roctangular impulse     6.7 g / 5 ms, 4g / 10 ms       • at DC     10.6 g / 5 ms, 6.3 g / 10 ms       mechanical service life (operating cycles)     10 000 000       • of the contactor with added electronically optimized auxiliary switch block typical     10 000 000       • of the contactor with added auxiliary switch block typical     2000 m       installation attude at the get above sea level maximum ambient temperature     2000 m       • during operation     -40 +70 °C       • during operation     -40 +70 °C       • relative humidity at 55 °C according to IEC 60068-2-30     95 %	product type designation	3RT2
product extension     No       • function module for communication     No       • auxiliary switch     Yes       power loss (W) for rated value of the current     23.7 W       • at AC in hot operating state     23.7 W       • at AC in hot operating state prole     7.9 W       Insulation voltage     1000 V       • of main circuit with degree of pollution 3 rated value     690 V       • of main circuit with degree of pollution 3 rated value     690 V       • of main circuit rated value     6 kV       • of main circuit rated value     8 kV       • of main circuit rated value     6 kV       • of auxiliary circuit rated value     6 kV       • at DC     6.7 g / 5 ms, 4g / 10 ms       shock resistance with sine pulse     10 000 000       • at DC     10.6 g / 5 ms, 6.3 g / 10 ms       mechanical service life (operating cycles)     10 000 000       • of the contactor which added auxiliary switch block typical     10 000 000       • of the contactor which added auxiliary switch block typical     10 000 000       • of the contacto	General technical data	
• function module for communication     No       • auxiliary switch     Yes       power loss [W] for rated value of the current     3.7 W       • at AC in hot operating state per pole     7.9 W       Insulation voltage     7.9 W       • of main circuit with degree of pollution 3 rated value     1000 V       • of auxiliary circuit with degree of pollution 3 rated value     690 V       surge voltage resistance     6 KV       • of auxiliary circuit rated value     8 kV       • of auxiliary circuit rated value     6 KV       maximum permissible voltage for protective separation between coll and main contact according to EN 60947-1     690 V       shock resistance at rectangular impulse     6.7 g / 5 ms, 4g / 10 ms       • at DC     10.8 g / 5 ms, 6.3 g / 10 ms       shock resistance life (operating cycles)     10 000 000       • of the contactor with added electronically optimized auxiliary switch block typical     10 000 000       • of the contactor with added auxiliary switch block typical     10 000 000       reference code according to EC 81348-2     Q       Substance Prohibitance (Date)     03/01/2017       Ambient conditions     -40 +70 °C       • during storage     -55 +80 °C       relative humidity at 55 °C according to IEC 60068-2.30     95 %	size of contactor	S3
• auxiliary switch     Yes       power loss [W] for rated value of the current     23.7 W       • at AC in hot operating state     23.7 W       • at AC in hot operating state per pole     7.9 W       Insulation voltage     1000 V       • of main circuit with degree of pollution 3 rated value     600 V       surge voltage resistance     600 V       • of auxiliary circuit rated value     8 kV       • of auxiliary circuit rated value     8 kV       • of auxiliary circuit rated value     6 kV       maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1     600 V       shock resistance at rectangular impulse     6.7 g / 5 ms, 4g / 10 ms       • at DC     6.7 g / 5 ms, 4g / 10 ms       shock resistance with sine pulse     1000 000       • of ontactor typical     10 000 000       • of the contactor with added electronically optimized auxiliary switch block typical     10 000 000       • of the contactor with added auxiliary switch block typical     10 000 000       • of the contactor (Date)     03/u1/2017       Ambient conditions     40 +70 °C       • during storage     -55 +80 °C       relative humidity at 55 °C according to IEC 60068-2-30     95 %       Main circuit     10 %	product extension	
power loss [W] for rated value of the current <ul> <li>at AC in hot operating state</li> <li>AC in hot operating state per pole</li> <li>AV</li> </ul> <li>Insulation voltage</li> <li>Ac in hot operating state</li> <li>AC in hot operating cycles</li> <li>AC in hot operating cycles</li> <li>AC in hot operating state</li> <li>AC in hot operating in the pulse</li> <li>AC in hot operating in the pulse</li> <li>AC in hot operating state</li> <li>AC in hot operating in the pulse</li> <li>AC in the contactor with added electronically optimized auxiliary switch block typical</li> <li>AC in the contactor</li>	<ul> <li>function module for communication</li> </ul>	No
• at AC in hot operating state       23.7 W         • at AC in hot operating state per pole       7.9 W         Insulation voltage       7.9 W         • of main circuit with degree of pollution 3 rated value       1000 V         • of auxiliary circuit with degree of pollution 3 rated value       690 V         surge voltage resistance       8 kV         • of auxiliary circuit rated value       6 kV         maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with addeed auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q	<ul> <li>auxiliary switch</li> </ul>	Yes
• at AC in hot operating state per pole       7.9 W         insulation voltage       • of main circuit with degree of pollution 3 rated value       1000 V         • of auxiliary circuit rated value       690 V         surge voltage resistance       8 kV         • of auxiliary circuit rated value       6 kV         maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         shock resistance with sine pulse       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       03001/2017         Ambient conditions       2 000 m         installation affitude at height above sea level maximum autimum autimum query elevel of C       40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %	power loss [W] for rated value of the current	
insulation voltage <ul> <li>of main circuit with degree of pollution 3 rated value</li> <li>of auxiliary circuit with degree of pollution 3 rated value</li> <li>e90 V</li> </ul> surge voltage resistance <ul> <li>of main circuit rated value</li> <li>e0 main circuit rated value</li> <li>8 kV</li> <li>of auxiliary circuit rated value</li> <li>8 kV</li> <li>of contacts according to EN 60947-1</li> </ul> <li>shock resistance at rectangular impulse</li> <li>at DC</li> <li>6.7 g / 5 ms, 4g / 10 ms</li> <li>shock resistance with sine pulse</li> <li>at DC</li> <li>10.6 g / 5 ms, 6.3 g / 10 ms</li> <li>mechanical service life (operating cycles)</li> <li>of contactor typical</li> <li>10 000 000</li> <li>for the contactor with added electronically optimized auxiliary switch block typical</li> <li>of the contactor with added auxiliary switch block typical</li> <li>10 000 000</li> <li>reference code according to EE C 8136-2</li> <li>Q</li> <li>Substance Prohibitance (Date)</li> <li>03/01/2017</li> <li>Ambient conditions</li> <li>installation altitude at height above sea level maximum</li> <li>2 0000 m</li> <li>ambient temperature</li> <li>during poration</li>	<ul> <li>at AC in hot operating state</li> </ul>	23.7 W
• of main circuit with degree of pollution 3 rated value       1 000 V         • of auxiliary circuit with degree of pollution 3 rated value       690 V         surge voltage resistance       8 kV         • of main circuit rated value       8 kV         • of auxiliary circuit ated value       6 kV         maximum permissible voltage for protective separation between coll and main contacts according to EN 80947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       40 +70 °C         installation atitude at height above sea level maximum       2 000 m         ambient temperature       -55 +80 °C         • during operation       -40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         relative humidity minimum       95 %	<ul> <li>at AC in hot operating state per pole</li> </ul>	7.9 W
• of auxiliary circuit with degree of pollution 3 rated value       690 V         surge voltage resistance       8 kV         • of main circuit rated value       8 kV         • of auxiliary circuit rated value       6 kV         maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       6.7 g / 5 ms, 4g / 10 ms         shock resistance with sine pulse       10.6 g / 5 ms, 6.3 g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       5 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IE	insulation voltage	
surge voltage resistance <ul> <li>of main circuit rated value</li> <li>of auxiliary circuit rated value</li> <li>f kV</li> </ul> maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1 <li>shock resistance at rectangular impulse</li> <ul> <li>at DC</li> <li>f contactor site in the pulse</li> <li>at DC</li> <li>of contactor typical</li> <li>of contactor typical</li> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> <li>of the contactor with added electronically optimized</li> <li>at DC</li> <li>of the contactor with added elexiliary switch block typical</li> <li>of the contactor with added elexiliary switch block typical</li> <li>of out according to IEC 81346-2</li> <li>Q</li> </ul> <li>Substance Prohibitance (Date)</li> <li>ambient temperature</li> <li>during operation</li> <li>-40 +70 °C</li> <li>-55 +80 °C</li> <li>relative humidity minimum</li> <li>10 %</li> <li>p5 %</li>	<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
• of main circuit rated value       8 kV         • of auxiliary circuit rated value       6 kV         maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       6.7 g / 5 ms, 4g / 10 ms         shock resistance with sine pulse       10.6 g / 5 ms, 6.3 g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       000000         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °C         • during storage       -55 +80 °C         relative humidity at 55 °C according to IEC 60068-2-30 maximum       95 %	<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
• of auxiliary circuit rated value       6 kV         maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       6.7 g / 5 ms, 4g / 10 ms         shock resistance with sine pulse       0.6 g / 5 ms, 6.3 g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       000 000         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       5 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         ye5 %       95 %	surge voltage resistance	
maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1       690 V         shock resistance at rectangular impulse       6.7 g / 5 ms, 4g / 10 ms         • at DC       6.7 g / 5 ms, 4g / 10 ms         shock resistance with sine pulse       0.6 g / 5 ms, 6.3 g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       10 000 000         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         ambient temperature       -40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %         Main circuit       Main circuit	<ul> <li>of main circuit rated value</li> </ul>	8 kV
coil and main contacts according to EN 60947-1         shock resistance at rectangular impulse         • at DC       6.7 g / 5 ms, 4g / 10 ms         shock resistance with sine pulse         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)         • of contactor typical         • of the contactor with added electronically optimized auxiliary switch block typical         • of the contactor with added auxiliary switch block typical         • of the contactor with added auxiliary switch block typical         • of the contactor with added auxiliary switch block typical         • of the contactor with added auxiliary switch block typical         • of the contactor (Date)         03/01/2017         Ambient conditions         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -45 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %         Main circuit	<ul> <li>of auxiliary circuit rated value</li> </ul>	6 kV
• at DC       6.7 g / 5 ms, 4g / 10 ms         shock resistance with sine pulse       10.6 g / 5 ms, 6.3 g / 10 ms         • at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       10 000 000         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       5 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       0301/2017         Ambient conditions       2 000 m         ambient temperature       -40 +70 °C         • during operation       -45 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %         Main circuit		690 V
shock resistance with sine pulse       10.6 g / 5 ms, 6.3 g / 10 ms         e at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       10 000 000         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %         Main circuit	shock resistance at rectangular impulse	
• at DC       10.6 g / 5 ms, 6.3 g / 10 ms         mechanical service life (operating cycles)       10 000 000         • of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       5 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °C         • during storage       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %         Main circuit	• at DC	6.7 g / 5 ms, 4g / 10 ms
mechanical service life (operating cycles)     0       • of contactor typical     10 000 000       • of the contactor with added electronically optimized auxiliary switch block typical     5 000 000       • of the contactor with added auxiliary switch block typical     10 000 000       reference code according to IEC 81346-2     Q       Substance Prohibitance (Date)     03/01/2017       Ambient conditions     2 000 m       installation altitude at height above sea level maximum     2 000 m       ambient temperature     -40 +70 °C       • during operation     -55 +80 °C       relative humidity minimum     10 %       relative humidity at 55 °C according to IEC 60068-2-30 maximum     95 %	shock resistance with sine pulse	
• of contactor typical       10 000 000         • of the contactor with added electronically optimized auxiliary switch block typical       5 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30       95 %         Main circuit	• at DC	10.6 g / 5 ms, 6.3 g / 10 ms
• of the contactor with added electronically optimized auxiliary switch block typical       5 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30 maximum       95 %	mechanical service life (operating cycles)	
auxiliary switch block typical       10 000 000         • of the contactor with added auxiliary switch block typical       10 000 000         reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30 maximum       95 %	<ul> <li>of contactor typical</li> </ul>	10 000 000
reference code according to IEC 81346-2       Q         Substance Prohibitance (Date)       03/01/2017         Ambient conditions       2 000 m         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -55 +80 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30 maximum       95 %		5 000 000
Substance Prohibitance (Date)       03/01/2017         Ambient conditions       installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °C         relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30 maximum       95 %         Main circuit       -40 +70 °C	<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
Ambient conditions         installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °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       -40 +70 °C	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum       2 000 m         ambient temperature       -40 +70 °C         • during operation       -40 +70 °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	Substance Prohibitance (Date)	03/01/2017
ambient temperature       -40 +70 °C         • during operation       -40 +70 °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	Ambient conditions	
• during operation     -40 +70 °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     -40 +70 °C	installation altitude at height above sea level maximum	2 000 m
• during storage     -55 +80 °C       relative humidity minimum     10 %       relative humidity at 55 °C according to IEC 60068-2-30 maximum     95 %       Main circuit	ambient temperature	
relative humidity minimum       10 %         relative humidity at 55 °C according to IEC 60068-2-30 maximum       95 %         Main circuit       95 %	during operation	-40 +70 °C
relative humidity at 55 °C according to IEC 60068-2-30       95 %         maximum       95 %         Main circuit       95 %	during storage	-55 +80 °C
maximum	relative humidity minimum	10 %
		95 %
number of poles for main current circuit 3	Main circuit	
	number of poles for main current circuit	3

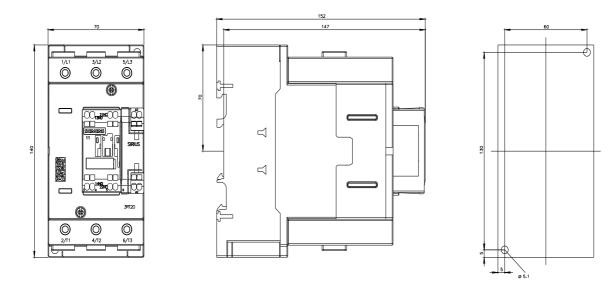
number of NO contracts for main contracts	0
number of NO contacts for main contacts	3
<ul> <li>operating voltage</li> <li>at AC-3 rated value maximum</li> </ul>	1 000 V
at AC-3e rated value maximum	1 000 V
• at AC-1 at 400 V at ambient temperature 40 °C rated	130 A
value	130 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	130 A
value	
— up to 690 V at ambient temperature 60 °C rated value	110 A
at AC-2 at 400 V rated value	110 A
• at AC-3	non
— at 400 V rated value	110 A
— at 500 V rated value	110 A
— at 690 V rated value	98 A
— at 1000 V rated value	30 A
• at AC-3e	0077
- at 400 V rated value	110 A
— at 500 V rated value	110 A
— at 690 V rated value	98 A
— at 1000 V rated value	30 A
at AC-4 at 400 V rated value	97 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	50 mm²
at maximum Ith rated value	50 mm <sup>2</sup>
operational current for approx. 200000 operating cycles at	
AC-4	
• at 400 V rated value	46 A
<ul> <li>at 690 V rated value</li> </ul>	36 A
operational current	
<ul> <li>at 1 current path at DC-1</li> </ul>	
— at 24 V rated value	100 A
— at 110 V rated value	9 A
— at 220 V rated value	2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.4 A
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	10 A
— at 440 V rated value	1.8 A
— at 600 V rated value	1 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	100 A
— at 24 V rated value — at 110 V rated value	100 A 100 A
— at 110 V rated value	100 A
— at 110 V rated value — at 220 V rated value	100 A 80 A
— at 110 V rated value — at 220 V rated value — at 440 V rated value	100 A 80 A 4.5 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> </ul>	100 A 80 A 4.5 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> </ul>	100 A 80 A 4.5 A 2.6 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A 1 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 440 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A 1 A 0.15 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A 1 A 0.15 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A 1 A 0.15 A 0.06 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 24 V rated value</li> <li>at 24 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A 1 A 0.15 A 0.06 A
<ul> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 24 V rated value</li> <li>at 210 V rated value</li> <li>at 24 V rated value</li> <li>at 24 V rated value</li> <li>at 24 V rated value</li> <li>at 210 V rated value</li> </ul>	100 A 80 A 4.5 A 2.6 A 40 A 2.5 A 1 A 0.15 A 0.06 A 100 A 100 A

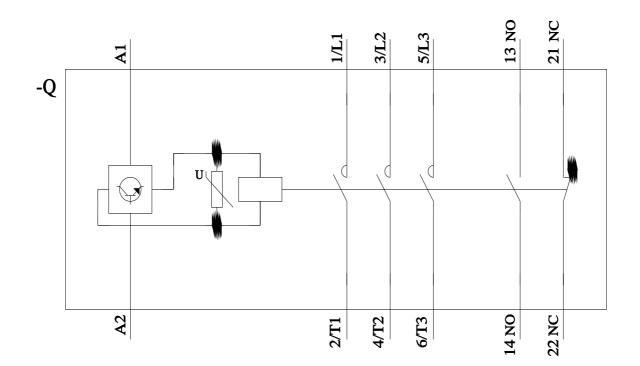
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
- at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.35 A
operating power	0.55 A
at AC-2 at 400 V rated value	55 kW
• at AC-3	55 KW
- at 230 V rated value	30 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 600 V rated value	90 kW
— at 1000 V rated value	37 kW
• at AC-3e	57 KVV
	20 1/1/
— at 230 V rated value	30 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	90 kW
at 1000 V rated value	37 kW
operating power for approx. 200000 operating cycles at AC- 4	
• at 400 V rated value	24.3 kW
• at 690 V rated value	32.9 kW
short-time withstand current in cold operating state up to 40 °C	
Imited to 1 s switching at zero current maximum	1 960 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	1 502 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	1 095 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	707 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	562 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 000 1/h
operating frequency	
<ul> <li>at AC-2 at AC-3e maximum</li> </ul>	350 1/h
● at AC-4 maximum	200 1/h
Ratings for railway applications	
thermal current (Ith) up to 690 V	
<ul> <li>up to 40 °C according to IEC 60077 rated value</li> </ul>	130 A
<ul> <li>up to 70 °C according to IEC 60077 rated value</li> </ul>	95 A
Control circuit/ Control	
type of voltage	DC
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	24 V
operating range factor control supply voltage rated value of	
magnet coil at DC	0.7
initial value	0.7
• full-scale value	1.25
design of the surge suppressor	with varistor 6.5 A
inrush current peak	50 µs
duration of inrush current neak	
duration of inrush current peak	· ·
locked-rotor current mean value	3.2 A
locked-rotor current mean value locked-rotor current peak	3.2 A 6.5 A
locked-rotor current mean value locked-rotor current peak duration of locked-rotor current	3.2 A 6.5 A 150 ms
locked-rotor current mean value locked-rotor current peak duration of locked-rotor current holding current mean value	3.2 A 6.5 A 150 ms 75 mA
locked-rotor current mean value         locked-rotor current peak         duration of locked-rotor current         holding current mean value         closing power of magnet coil at DC	3.2 A 6.5 A 150 ms 75 mA 76 W
locked-rotor current mean value         locked-rotor current peak         duration of locked-rotor current         holding current mean value         closing power of magnet coil at DC         holding power of magnet coil at DC	3.2 A 6.5 A 150 ms 75 mA
locked-rotor current mean value         locked-rotor current peak         duration of locked-rotor current         holding current mean value         closing power of magnet coil at DC         holding power of magnet coil at DC         closing delay	3.2 A 6.5 A 150 ms 75 mA 76 W 1.8 W
locked-rotor current mean value         locked-rotor current peak         duration of locked-rotor current         holding current mean value         closing power of magnet coil at DC         holding power of magnet coil at DC	3.2 A 6.5 A 150 ms 75 mA 76 W

a at DC	29 F7 mg
• at DC	38 57 ms
arcing time	10 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
instantaneous contact	1
number of NO contacts for auxiliary contacts	1
instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul> <li>at 230 V rated value</li> </ul>	6 A
<ul> <li>at 400 V rated value</li> </ul>	3 A
<ul> <li>at 500 V rated value</li> </ul>	2 A
• at 690 V rated value	1 A
operational current at DC-12	
<ul> <li>at 24 V rated value</li> </ul>	10 A
<ul> <li>at 48 V rated value</li> </ul>	6 A
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1 A
• at 600 V rated value	0.15 A
operational current at DC-13	
<ul> <li>at 24 V rated value</li> </ul>	10 A
<ul> <li>at 48 V rated value</li> </ul>	2 A
<ul> <li>at 60 V rated value</li> </ul>	2 A
<ul> <li>at 110 V rated value</li> </ul>	1 A
<ul> <li>at 125 V rated value</li> </ul>	0.9 A
<ul> <li>at 220 V rated value</li> </ul>	0.3 A
• at 600 V rated value	0.1 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul> <li>at 480 V rated value</li> </ul>	96 A
<ul> <li>at 600 V rated value</li> </ul>	99 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	10 hp
— at 230 V rated value	20 hp
<ul> <li>for 3-phase AC motor</li> </ul>	
— at 200/208 V rated value	30 hp
— at 220/230 V rated value	40 hp
— at 460/480 V rated value	75 hp
— at 575/600 V rated value	100 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
product function short circuit protection	No
design of the fuse link	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
- with type of coordination 1 required	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)
- with type of assignment 2 required	gG: 200A (690V,100kA), aM: 100A (690V,100kA), BS88: 160A (415V,80kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	140 mm
width	70 mm
depth	152 mm
required spacing	

<ul> <li>with side-by-side mounting</li> <li>— forwards</li> </ul>	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	spring-loaded terminals
at contactor for auxiliary contacts	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections for main contacts	epining type terminate
finely stranded with core end processing	2x (2.5 35 mm²), 1x (2.5 50 mm²)
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 2.5 mm²)
— finely stranded with core end processing	2x (0.5 1.5 mm <sup>2</sup> )
<ul> <li>finely stranded with orde one processing</li> <li>finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm <sup>2</sup> )
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 16)
AWG number as coded connectable conductor cross section	
for main contacts	10 2
for auxiliary contacts	20 14
Safety related data	
product function	
mirror contact according to IEC 60947-4-1	Yes
<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
with low demand rate according to SN 31920	40 %
with high demand rate according to SN 31920	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
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
Communication/ Protocol	
product function bus communication	No
Certificates/ approvals	
General Product Approval	
Functional EMC Safety/Safety of Ma- Declaration	of Conformity Test Certificates

	<u>Type Examination Cer-</u> <u>tificate</u>	UK CA	CE EG-Konf.	<u>Type Test Certific-</u> ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>
Marine / Shipping					other
ABS	Hoyd's Register	PRS	RINA	RMRS	<u>Confirmation</u>
Railway			Environment		
Type Test Certific- ates/Test Report	Vibration and Shock	Special Test Certific- ate	Environmental Con- firmations		
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