## SIEMENS

## Data sheet

## 3RA2220-0KB23-0AP6



Fuseless motor starter Reversing operation 600VAC Size S0 0.9-1.25A 220/240VAC 50/60HZ screw connection For 35 mm rail-mounting Type of coordination 2 IQ = 150 KA Also full fills type Of coordination 1 1NO+1NC (per contactor)

| product brand name   | SIRIUS                       |  |  |  |  |
|--|------------------------------|--|--|--|--|
| product designation  | non-fused motor starter 3RA2 |  |  |  |  |
| design of the product  | reversing starter            |  |  |  |  |
| manufacturer's article number  |                              |  |  |  |  |
| <ul> <li>of the supplied contactor</li> </ul>  | <u>3RT2023-1AP60</u>         |  |  |  |  |
| <ul> <li>of the supplied circuit-breakers</li> </ul>                                   | <u>3RV2011-0KA10</u>         |  |  |  |  |
| <ul> <li>of the supplied RH assembly kit</li> </ul>                                    | <u>3RA2923-1BB1</u>          |  |  |  |  |
| <ul> <li>of the supplied busbar adapter</li> </ul>                                     | <u>3RA2922-1AA00</u>         |  |  |  |  |
| <ul> <li>of the supplied link module</li> </ul>  | <u>3RA2921-1AA00</u>         |  |  |  |  |
| <ul> <li>of the supplied standard mounting rail adapter</li> </ul>                     | <u>3RA2922-1AA00</u>         |  |  |  |  |
| General technical data   |                              |  |  |  |  |
| size of the circuit-breaker  | S00                          |  |  |  |  |
| size of load feeder  | SO                           |  |  |  |  |
| 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 according to IEC 60068-2-27   | 6g / 11 ms                   |  |  |  |  |
| mechanical service life (switching cycles) of contactor<br>typical                     | 10 000 000                   |  |  |  |  |
| type of assignment   | 2                            |  |  |  |  |
| Substance Prohibitance (Date)  | 03/01/2017                   |  |  |  |  |
| Ambient conditions   |                              |  |  |  |  |
| ambient temperature  |                              |  |  |  |  |
| <ul> <li>during operation</li> </ul>   | -20 +60 °C                   |  |  |  |  |
| <ul> <li>during storage</li> </ul>   | -50 +80 °C                   |  |  |  |  |
| <ul> <li>during transport</li> </ul>   | -55 +80 °C                   |  |  |  |  |
| Main circuit   |                              |  |  |  |  |
| number of poles for main current circuit   | 3                            |  |  |  |  |
| design of the switching contact  | electromechanical            |  |  |  |  |
| adjustable current response value current of the<br>current-dependent overload release | 0.9 1.25 A                   |  |  |  |  |
| operating voltage  |                              |  |  |  |  |
| <ul> <li>rated value</li> </ul>  | 690 V                        |  |  |  |  |
| <ul> <li>at AC-3 rated value maximum</li> </ul>  | 690 V                        |  |  |  |  |
| operating frequency rated value  | 50 60 Hz                     |  |  |  |  |
| operational current at AC-3 at 400 V rated value                                       | 1.1 A                        |  |  |  |  |
| operating power at AC-3  |                              |  |  |  |  |
| <ul> <li>at 400 V rated value</li> </ul>   | 370 W                        |  |  |  |  |

|   | CE0.14   |  |  |  |
|---|--|--|--|--|
| at 500 V rated value  | 550 W  |  |  |  |
| at 690 V rated value  | 750 W  |  |  |  |
| Control circuit/ Control  |  |  |  |  |
| control supply voltage at AC  |  |  |  |  |
| <ul> <li>at 50 Hz rated value</li> </ul>  | 220 V  |  |  |  |
| <ul> <li>at 50 Hz rated value</li> </ul>  | 176 242 V  |  |  |  |
| <ul> <li>at 60 Hz rated value</li> </ul>  | 240 V  |  |  |  |
| • at 60 Hz rated value  | 192 264 V  |  |  |  |
| apparent holding power of magnet coil at AC   | 7.2 VA   |  |  |  |
| inductive power factor with the holding power of the coil   | 0.28   |  |  |  |
| Auxiliary circuit   |  |  |  |  |
| number of NC contacts for auxiliary contacts  | 2  |  |  |  |
| number of NO contacts for auxiliary contacts  | 2  |  |  |  |
| Protective and monitoring functions   |  |  |  |  |
| trip class  | CLASS 10   |  |  |  |
| design of the overload release  | thermal (bimetallic)   |  |  |  |
| response value current of instantaneous short-circuit trip<br>unit  | 16.25 A  |  |  |  |
| UL/CSA ratings  |  |  |  |  |
| full-load current (FLA) for 3-phase AC motor  |  |  |  |  |
| at 480 V rated value  | 1.19 A   |  |  |  |
| at 480 V rated value     at 600 V rated value   | 1.19 A<br>1.25 A   |  |  |  |
|   | 1.20 A   |  |  |  |
| yielded mechanical performance [hp]   |  |  |  |  |
| • for 3-phase AC motor  | 0.5 hr   |  |  |  |
| - at 460/480 V rated value  | 0.5 hp   |  |  |  |
| — at 575/600 V rated value  | 0.5 hp   |  |  |  |
| Short-circuit protection  |  |  |  |  |
| product function short circuit protection   | Yes  |  |  |  |
| design of the short-circuit trip  | magnetic   |  |  |  |
| conditional short-circuit current (Iq)  |  |  |  |  |
|   |  |  |  |  |
| • at 400 V according to IEC 60947-4-1 rated value   | 153 000 A  |  |  |  |
|   | 153 000 A  |  |  |  |
| • at 400 V according to IEC 60947-4-1 rated value   | 153 000 A<br>vertical  |  |  |  |
| at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions  |  |  |  |  |
| at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position  | vertical   |  |  |  |
| at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method   | vertical<br>snap-on fastening on 35 mm standard rail   |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height   | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm   |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height width   | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm  |  |  |  |
| at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height width depth  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm  |  |  |  |
| t at 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing   | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm  |  |  |  |
| t at 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing o for grounded parts  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm  |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing     for grounded parts     — forwards  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm  |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position  fastening method  height  width depth required spacing      for grounded parts         — forwards         — backwards  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm   |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing      for grounded parts         — forwards         — backwards         — upwards   | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm  |  |  |  |
| t at 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing      for grounded parts         — forwards         — backwards         — upwards         — at the side  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm  |  |  |  |
| t at 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing      for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm  |  |  |  |
| the side large space is the side space is the side space is the space is the side space is the sp | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm   |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing      for grounded parts         — forwards         — backwards         — at the side         — downwards         for live parts         — forwards         — forwards         — forwards         — forwards         — forwards         — forwards         — downwards         — forwards         — forwards         — forwards         — backwards         — backwards         — backwards         — backwards   | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm   |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position  fastening method  height  width depth  required spacing      for grounded parts          — forwards          — backwards          — upwards          — at the side          — downwards          for live parts          — forwards          — forwards          — forwards          — for live parts          — forwards  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>0 mm  |  |  |  |
| <ul> <li>at 400 V according to IEC 60947-4-1 rated value</li> <li>Installation/ mounting/ dimensions</li> <li>mounting position</li> <li>fastening method</li> <li>height</li> <li>width</li> <li>depth</li> <li>required spacing</li> <li>for grounded parts</li> <li>for grounded parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>for live parts</li> <li>upwards</li> </ul>  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>30 mm<br>30 mm  |  |  |  |
| <ul> <li>at 400 V according to IEC 60947-4-1 rated value</li> <li>Installation/ mounting/ dimensions</li> <li>mounting position</li> <li>fastening method</li> <li>height</li> <li>width</li> <li>depth</li> <li>required spacing</li> <li>for grounded parts</li> <li>for grounded parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>for live parts</li> <li>forwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>at the side</li> </ul>   | vertical         snap-on fastening on 35 mm standard rail         265 mm         90 mm         120 mm         10 mm         0 mm         30 mm         9 mm         10 mm         0 mm         30 mm         9 mm         10 mm  |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing      for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         — forwards         — forwards         — forwards         — forwards         — downwards         — forwards         — downwards         — downwards         — at the side         — downwards         — forwards         — at the side         — downwards         — forwards         — downwards         — downwards         — at the side         — downwards         — downwards         — at the side         — downwards         — at the side         — downwards         — more   marks         — forwards         — more   marks         — forwards         — more   marks         — forwards         — forwards         — more   marks         — more   marks  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm  |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing      for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         — forwards         — forwards         — forwards         — downwards         — forwards         — at the side         — downwards         — forwards         — forwards         — at the side         — downwards         — forwards         — at the side         — downwards         — forwards         — at the side         — downwards         — backwards         — at the side         — downwards         — at the side         — downwards         — backwards         — upwards         — at the side         — downwards         — the side         — downwards         — governeds         — upwards         — the side         — downwards         — upwards         — the side         — downwards         — governeds         — upwards         — the side         — downwards         — upwards         — the side         — downwards         — upwards         — governeds         — upwards         — the side         — downwards         — at the side         — downwards         — at the side   | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>10 mm<br>10 mm<br>10 mm   |  |  |  |
| t 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing     for grounded parts         - forwards         - backwards         - upwards         - at the side         - downwards         - forwards         - backwards         - upwards         - forwards         - downwards         - downwards         - downwards         - downwards         - at the side         - downwards         - backwards         - upwards         - at the side         - downwards         - backwards         - upwards         - backwards         - ypwards         - backwards         - backwards         - backwards         - the side         - downwards         - backwards         - upwards         - backwards         - ypwards         - backwards         - | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm<br>10 mm<br>9 mm  |  |  |  |
| <ul> <li>at 400 V according to IEC 60947-4-1 rated value</li> <li>Installation/ mounting/ dimensions</li> <li>mounting position</li> <li>fastening method</li> <li>height</li> <li>width</li> <li>depth</li> <li>required spacing</li> <li>for grounded parts</li> <li>– forwards</li> <li>– backwards</li> <li>– upwards</li> <li>– at the side</li> <li>– downwards</li> <li>for live parts</li> <li>– forwards</li> <li>– backwards</li> <li>– upwards</li> <li>– forwards</li> <li>– forwards</li> <li>– at the side</li> <li>– downwards</li> <li>– backwards</li> <li>– upwards</li> <li>– at the side</li> <li>– downwards</li> <li>– backwards</li> <li>– upwards</li> <li>– at the side</li> <li>– downwards</li> <li>– backwards</li> <li>– upwards</li> <li>– at the side</li> <li>– downwards</li> <li>– of orwards</li> <li>–</li></ul>  | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>10 mm<br>9 mm<br>10 mm<br>10 mm<br>9 mm<br>10 mm<br>25 crew-type terminals<br>1 10 mm <sup>2</sup> , 2x (2.5 6 mm <sup>2</sup> )  |  |  |  |
| <ul> <li>at 400 V according to IEC 60947-4-1 rated value</li> <li>Installation/ mounting/ dimensions</li> <li>mounting position</li> <li>fastening method</li> <li>height</li> <li>width</li> <li>depth</li> <li>required spacing</li> <li>for grounded parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>at the side</li> <li>downwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>at the side</li> <li>downwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>at the side</li> <li>downwards</li> <li>for main contacts stranded</li> <li>at AWG cables for main contacts</li> </ul>   | vertical           snap-on fastening on 35 mm standard rail           265 mm           90 mm           120 mm           10 mm           0 mm           30 mm           9 mm           10 mm           0 mm           30 mm           9 mm           10 mm           9 mm           2 screw-type terminals           1 10 mm², 2x (2.5 6 mm²)           2x (16 12), 2x (14 8) |  |  |  |
| tat 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing     for grounded parts         — forwards         — backwards         — backwards         — upwards         — at the side         — downwards         — for live parts         — forwards         — backwards         — upwards         — forwards         — downwards         — for art the side         — downwards         — forwards         — at the side         — downwards         — at the side         — a | vertical<br>snap-on fastening on 35 mm standard rail<br>265 mm<br>90 mm<br>120 mm<br>10 mm<br>0 mm<br>30 mm<br>9 mm<br>10 mm<br>10 mm<br>10 mm<br>9 mm<br>10 mm<br>10 mm<br>9 mm<br>10 mm<br>25 crew-type terminals<br>1 10 mm <sup>2</sup> , 2x (2.5 6 mm <sup>2</sup> )  |  |  |  |
| tat 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing     for grounded parts         — forwards         — backwards         — backwards         — upwards         — at the side         — downwards         — for live parts         — forwards         — upwards         — backwards         — downwards         — forwards         — at the side         — downwards         — for and the side         — downwards         — forwards         — forwards         — at the side         — downwards         — forwards         — backwards         — backwards         — forwards         — backwards         — backwards         — backwards         — backwards         — backwards         — at the side         — downwards         — at the side         — other side         — at the side         — downwards         — at the side         — at the side         — downwards         — at the side         — at the side         — downwards         — at the side         — at the side         — downwards         — at the side         — downwards         — at the side         — at the side         — at the side         — at the side        | vertical           snap-on fastening on 35 mm standard rail           265 mm           90 mm           120 mm           10 mm           0 mm           30 mm           9 mm           10 mm           0 mm           30 mm           9 mm           10 mm           9 mm           2 screw-type terminals           1 10 mm², 2x (2.5 6 mm²)           2x (16 12), 2x (14 8)                                |  |  |  |
| <ul> <li>at 400 V according to IEC 60947-4-1 rated value</li> <li>Installation/ mounting/ dimensions         <ul> <li>mounting position</li> <li>fastening method</li> <li>height</li> <li>width</li> <li>depth</li> </ul> </li> <li>required spacing         <ul> <li>for grounded parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>for live parts</li> <li>forwards</li> <li>downwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for nive parts</li> <li>for not parts</li> <li>for mark for the side</li> </ul> </li> <li>Adwn and for the side</li> </ul> Connections/ Terminals type of electrical connection for main current circuit type of connectable conductor cross-sections <ul> <li>for main contacts stranded</li> <li>at AWG cables for main contacts</li> <li>connectable conductor cross-section for main contacts finely stranded with core end processing</li> </ul>   | vertical         snap-on fastening on 35 mm standard rail         265 mm         90 mm         120 mm         10 mm         0 mm         30 mm         9 mm         10 mm         0 mm         30 mm         9 mm         10 mm         0 mm         30 mm         10 mm         9 mm         screw-type terminals         1 10 mm², 2x (2.5 6 mm²)         2x (16 12), 2x (14 8)         1 6 mm²  |  |  |  |
| tat 400 V according to IEC 60947-4-1 rated value  Installation/ mounting/ dimensions  mounting position fastening method height width depth required spacing     for grounded parts         - forwards         - backwards         - backwards         - upwards         - at the side         - downwards         - forrwards         - forwards         - gorwards         - at the side         - downwards         - backwards         - gorwards         - at the side         - downwards         - forwards         - gorwards         - at the side         - downwards         - forwards         - backwards         - gorwards         - at the side         - downwards         - forwards         - backwards         - backwards    | vertical           snap-on fastening on 35 mm standard rail           265 mm           90 mm           120 mm           10 mm           0 mm           30 mm           9 mm           10 mm           0 mm           30 mm           9 mm           10 mm           9 mm           2 screw-type terminals           1 10 mm², 2x (2.5 6 mm²)           2x (16 12), 2x (14 8)                                |  |  |  |

| proportion of dangerous failures with high demand rate according to SN 31920 |        |  | 73 % |                              |                     |  |
|--|--------|--|------|------------------------------|---------------------|--|
| 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 Ap   | proval | For use in ha ous locations                      |      | Declaration of<br>Conformity | other               |  |
| Confirmation   | EAC    | (Ex)   |      | CE<br>EG-Konf.               | <u>Confirmation</u> |  |

## **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=3RA2220-0KB23-0AP6

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2220-0KB23-0AP6

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA2220-0KB23-0AP6

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

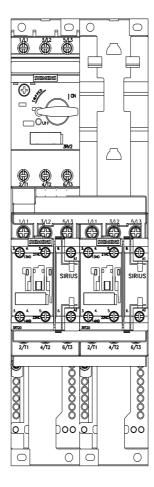
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA2220-0KB23-0AP6&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RA2220-0KB23-0AP6/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2220-0KB23-0AP6&objecttype=14&gridview=view1



last modified:

12/15/2020 🖸