



## Amplifier module, for separate mounting

Part no. **ETS4-VS3**  
 Catalog No. **083094**  
 Eaton Catalog No. **-**

## Delivery program

| Rated operational current                                                                                                                                                                                                                                                                          |       |      |                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|-------------------------------------------------------|
| AC-15                                                                                                                                                                                                                                                                                              |       |      |                                                       |
| 240 V                                                                                                                                                                                                                                                                                              | $I_e$ | A    | 2                                                     |
| 415 V                                                                                                                                                                                                                                                                                              | $I_e$ | A    | 2                                                     |
| DC                                                                                                                                                                                                                                                                                                 |       |      |                                                       |
| 220 V                                                                                                                                                                                                                                                                                              | $I_e$ | A    | 0.03                                                  |
| Actuating voltage                                                                                                                                                                                                                                                                                  | $U_s$ | V DC | 24                                                    |
| Actuating current                                                                                                                                                                                                                                                                                  | $I$   | mA   | 25                                                    |
| Contact sequence                                                                                                                                                                                                                                                                                   |       |      |                                                       |
| <b>For use with</b>                                                                                                                                                                                                                                                                                |       |      | DILM...<br>DIMLP...<br>DILL...<br>DILK... As required |
| <b>Notes</b>                                                                                                                                                                                                                                                                                       |       |      |                                                       |
| VS1DIL and VS2DIL amplifier modules can be directly mounted. Contactor coils with rated operational currents >2 A must be energized via the DILER-G mini contactor relay. Overvoltage limitation: The output on VS2DIL and the input on ETS4-VS3 are equipped with an integral suppressor circuit. |       |      |                                                       |
| Making and breaking conditions:<br>VS1DIL, VS2DIL and ETS4-VS3 to DC-13, L/R 300 ms.                                                                                                                                                                                                               |       |      |                                                       |
| Note for table header<br>Rated operational current DC:<br>Making and breaking conditions DC-13, time L/R 300ms                                                                                                                                                                                     |       |      |                                                       |

## Design verification as per IEC/EN 61439

| Technical data for design verification                                                                                 |            |    |                                                                    |
|------------------------------------------------------------------------------------------------------------------------|------------|----|--------------------------------------------------------------------|
| Rated operational current for specified heat dissipation                                                               | $I_n$      | A  | 0                                                                  |
| Heat dissipation per pole, current-dependent                                                                           | $P_{vid}$  | W  | 0                                                                  |
| Equipment heat dissipation, current-dependent                                                                          | $P_{vid}$  | W  | 0                                                                  |
| Static heat dissipation, non-current-dependent                                                                         | $P_{vs}$   | W  | 0.47                                                               |
| Heat dissipation capacity                                                                                              | $P_{diss}$ | W  | 0                                                                  |
| Operating ambient temperature max.                                                                                     |            | °C | -25                                                                |
| Operating ambient temperature max.                                                                                     |            | °C | 60                                                                 |
| IEC/EN 61439 design verification                                                                                       |            |    |                                                                    |
| 10.2 Strength of materials and parts                                                                                   |            |    |                                                                    |
| 10.2.2 Corrosion resistance                                                                                            |            |    | Meets the product standard's requirements.                         |
| 10.2.3.1 Verification of thermal stability of enclosures                                                               |            |    | Meets the product standard's requirements.                         |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat                                             |            |    | Meets the product standard's requirements.                         |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects |            |    | Meets the product standard's requirements.                         |
| 10.2.4 Resistance to ultra-violet (UV) radiation                                                                       |            |    | Meets the product standard's requirements.                         |
| 10.2.5 Lifting                                                                                                         |            |    | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.6 Mechanical impact                                                                                               |            |    | Does not apply, since the entire switchgear needs to be evaluated. |

|                                                          |  |  |                                                                                                                                  |
|----------------------------------------------------------|--|--|----------------------------------------------------------------------------------------------------------------------------------|
| 10.2.7 Inscriptions                                      |  |  | Meets the product standard's requirements.                                                                                       |
| 10.3 Degree of protection of ASSEMBLIES                  |  |  | Does not apply, since the entire switchgear needs to be evaluated.                                                               |
| 10.4 Clearances and creepage distances                   |  |  | Meets the product standard's requirements.                                                                                       |
| 10.5 Protection against electric shock                   |  |  | Does not apply, since the entire switchgear needs to be evaluated.                                                               |
| 10.6 Incorporation of switching devices and components   |  |  | Does not apply, since the entire switchgear needs to be evaluated.                                                               |
| 10.7 Internal electrical circuits and connections        |  |  | Is the panel builder's responsibility.                                                                                           |
| 10.8 Connections for external conductors                 |  |  | Is the panel builder's responsibility.                                                                                           |
| 10.9 Insulation properties                               |  |  |                                                                                                                                  |
| 10.9.2 Power-frequency electric strength                 |  |  | Is the panel builder's responsibility.                                                                                           |
| 10.9.3 Impulse withstand voltage                         |  |  | Is the panel builder's responsibility.                                                                                           |
| 10.9.4 Testing of enclosures made of insulating material |  |  | Is the panel builder's responsibility.                                                                                           |
| 10.10 Temperature rise                                   |  |  | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating                               |  |  | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| 10.12 Electromagnetic compatibility                      |  |  | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| 10.13 Mechanical function                                |  |  | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |

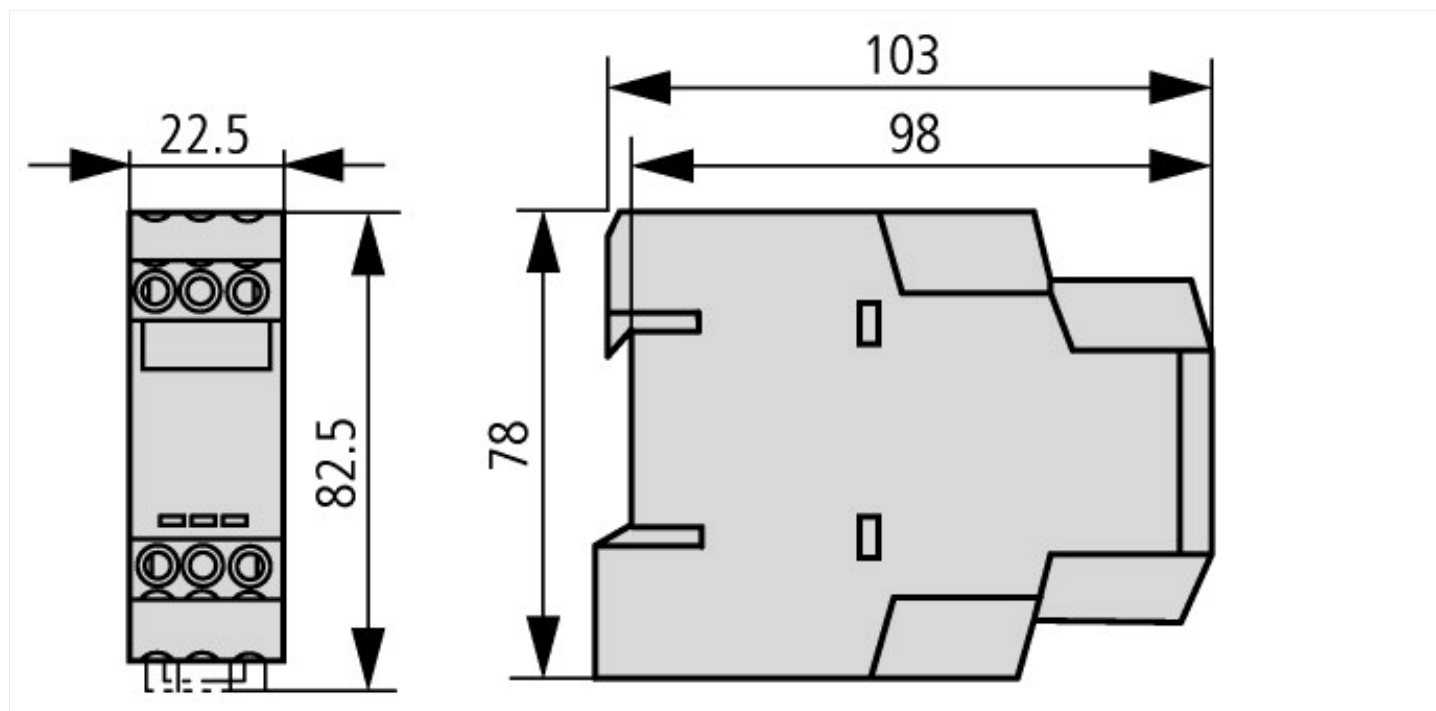
## Technical data ETIM 6.0

|                                                                                                                                                                                     |  |   |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|----------------------|
| Low-voltage industrial components (EG000017) / Amplifier module for contactor (EC000198)                                                                                            |  |   |                      |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Amplifier module for contactor (ecl@ss8.1-27-37-10-11 [AKF020010]) |  |   |                      |
| Type of set-up                                                                                                                                                                      |  |   | Separate positioning |
| With integrated suppressor                                                                                                                                                          |  |   | Yes                  |
| Rated operation current I <sub>e</sub> at DC-13, 230 V                                                                                                                              |  | A | 0                    |
| Rated operation current I <sub>e</sub> at AC-15, 230 V                                                                                                                              |  | A | 2                    |
| Rated control supply voltage U <sub>s</sub> at AC 50HZ                                                                                                                              |  | V | 0 - 0                |
| Rated control supply voltage U <sub>s</sub> at AC 60HZ                                                                                                                              |  | V | 0 - 0                |
| Rated control supply voltage U <sub>s</sub> at DC                                                                                                                                   |  | V | 24 - 24              |
| Voltage type for actuating                                                                                                                                                          |  |   | DC                   |

## Approvals

|                                      |  |  |                                                           |
|--------------------------------------|--|--|-----------------------------------------------------------|
| Product Standards                    |  |  | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No.                          |  |  | E29184                                                    |
| UL Category Control No.              |  |  | NKCR                                                      |
| CSA File No.                         |  |  | 012528                                                    |
| CSA Class No.                        |  |  | 2411-03, 3211-04                                          |
| North America Certification          |  |  | UL listed, CSA certified                                  |
| Specially designed for North America |  |  | No                                                        |

## Dimensions



## Additional product information (links)

|                                                                                                |                                                                                                                                   |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Switchgear of Power Factor Correction Systems                                                  | <a href="http://www.moeller.net/binary/ver_techpapers/ver934en.pdf">http://www.moeller.net/binary/ver_techpapers/ver934en.pdf</a> |
| X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely                 | <a href="http://www.moeller.net/binary/ver_techpapers/ver938en.pdf">http://www.moeller.net/binary/ver_techpapers/ver938en.pdf</a> |
| Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions   | <a href="http://www.moeller.net/binary/ver_techpapers/ver944en.pdf">http://www.moeller.net/binary/ver_techpapers/ver944en.pdf</a> |
| Effect of the Cabel Capacitance of Long Control Cables on the Actuation of Contactors          | <a href="http://www.moeller.net/binary/ver_techpapers/ver949en.pdf">http://www.moeller.net/binary/ver_techpapers/ver949en.pdf</a> |
| Motor starters and "Special Purpose Ratings" for the North American market                     | <a href="http://www.moeller.net/binary/ver_techpapers/ver953en.pdf">http://www.moeller.net/binary/ver_techpapers/ver953en.pdf</a> |
| Switchgear for Luminaires                                                                      | <a href="http://www.moeller.net/binary/ver_techpapers/ver955en.pdf">http://www.moeller.net/binary/ver_techpapers/ver955en.pdf</a> |
| Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts | <a href="http://www.moeller.net/binary/ver_techpapers/ver956en.pdf">http://www.moeller.net/binary/ver_techpapers/ver956en.pdf</a> |
| The Interaction of Contactors with PLCs                                                        | <a href="http://www.moeller.net/binary/ver_techpapers/ver957en.pdf">http://www.moeller.net/binary/ver_techpapers/ver957en.pdf</a> |
| Busbar Component Adapters for modern Industrial control panels                                 | <a href="http://www.moeller.net/binary/ver_techpapers/ver960en.pdf">http://www.moeller.net/binary/ver_techpapers/ver960en.pdf</a> |