

# Product datasheet

Specifications



## Soft starter, Altistart 480, 47A, 208 to 690V AC, control supply 110 to 230V AC

ATS480D47Y

EAN Code: 3606481089038

### Main

|  |  |
|--|--|
| <b>Range of product</b>                          | Altivar Soft Starter ATS480  |
| <b>Product or component type</b>                 | Soft starter   |
| <b>Product destination</b>                       | Asynchronous motors  |
| <b>Product specific application</b>              | Process and infrastructures  |
| <b>Device short name</b>                         | ATS480   |
| <b>Network number of phases</b>                  | 3 phases   |
| <b>Utilisation category</b>                      | AC-3A<br>AC-53A  |
| <b>Ue power supply voltage</b>                   | 208...690 V - 15...10 %  |
| <b>power supply frequency</b>                    | 50...60 Hz - 20...20 %   |
| <b>[I<sub>e</sub>] rated operational current</b> | Normal duty: 47.0 A (at <40 °C)  |
| <b>rated current in heavy duty</b>               | 38.0 A at 40 °C for heavy duty   |
| <b>IP degree of protection</b>                   | IP20   |
| <b>Motor power kW</b>                            | 11.0 kW at 230 V in the motor supply line normal duty<br>9.0 kW at 230 V in the motor supply line heavy duty<br>22.0 kW at 400 V in the motor supply line normal duty<br>18.5 kW at 400 V in the motor supply line heavy duty<br>22.0 kW at 440 V in the motor supply line normal duty<br>18.5 kW at 440 V in the motor supply line heavy duty<br>30.0 kW at 500 V in the motor supply line normal duty<br>22.0 kW at 500 V in the motor supply line heavy duty<br>30.0 kW at 525 V in the motor supply line normal duty<br>22.0 kW at 525 V in the motor supply line heavy duty<br>37.0 kW at 660 V in the motor supply line normal duty<br>30.0 kW at 660 V in the motor supply line heavy duty<br>37.0 kW at 690 V in the motor supply line normal duty<br>30.0 kW at 690 V in the motor supply line heavy duty<br>22.0 kW at 230 V to the motor delta terminals normal duty<br>18.5 kW at 230 V to the motor delta terminals heavy duty<br>45.0 kW at 400 V to the motor delta terminals normal duty<br>30.0 kW at 400 V to the motor delta terminals heavy duty |
| <b>Motor power hp</b>                            | 10.0 hp at 208 V heavy duty<br>15.0 hp at 230 V normal duty<br>10.0 hp at 230 V heavy duty<br>30.0 hp at 460 V normal duty<br>25.0 hp at 460 V heavy duty<br>40.0 hp at 575 V normal duty<br>30.0 hp at 575 V heavy duty   |
| <b>Option card</b>                               | Communication module for Profibus DP V1<br>Communication module for Modbus TCP/EtherNet/IP<br>Communication module for CANopen daisy chain<br>Communication module for CANopen Sub-D<br>Communication module for CANopen open style<br>Communication module for PROFINET   |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

## Complementary

|  |  |
|--|--|
| <b>Device connection</b>                       | In the motor supply line<br>To the motor delta terminals   |
| <b>[Us] control circuit voltage</b>            | 110...230 V AC 50/60 Hz - 15...10 %  |
| <b>Apparent power</b>                          | 0.09 kVA   |
| <b>Integrated motor overload protection</b>    | True   |
| <b>motor thermal protection class</b>          | Class 10E  |
| <b>Protection type</b>                         | Phase failure: line<br>Integrated thermal protection: motor<br>Thermal protection: starter<br>Current overload: motor<br>Underload: motor<br>Excessive starting time, locked rotor: motor<br>Motor phase loss: motor<br>Line supply phase loss: line<br>Line supply phase loss: motor<br>Thermal protection: motor |
| <b>current limiting %In (5 x Ie maximum)</b>   | 150...700 %  |
| <b>Rated current pwr loss specification</b>    | 47.0 A   |
| <b>Power loss static current independent</b>   | 25.0 W   |
| <b>Power loss per device current dependent</b> | 122.0 W  |
| <b>Standards</b>                               | IEC 60947-4-2<br>UL 60947-4-2<br>IEC 60664-1   |
| <b>Product certifications</b>                  | CE<br>cULus<br>CCC<br>UKCA<br>RCM<br>EAC<br>DNV<br>ABS<br>BV<br>CCS  |
| <b>Marking</b>                                 | CE<br>CCC<br>UKCA<br>EAC<br>RCM<br>CULus   |
| <b>[Uc] control circuit voltage</b>            | 24 V DC  |
| <b>Discrete input number</b>                   | 4  |
| <b>Discrete input type</b>                     | (STOP) logic inputs, 3500 Ohm<br>(RUN) logic inputs, 3500 Ohm<br>(DI3) programmable as logic input, 3500 Ohm<br>(DI4) programmable as logic input, 3500 Ohm  |
| <b>Input compatibility</b>                     | STOP: discrete input level 1 PLC conforming to IEC 61131-2<br>RUN: discrete input level 1 PLC conforming to IEC 61131-2<br>DI3: discrete input level 1 PLC conforming to IEC 61131-2<br>DI4: discrete input level 1 PLC conforming to IEC 61131-2  |
| <b>Discrete input logic</b>                    | Programmable digital input at State 0: < 5 V   |
| <b>Relay output number</b>                     | 3  |
| <b>Relay output type</b>                       | Relay outputs R1A 1 NO<br>Relay outputs R1B 1 NO<br>Relay outputs RIC NO/NC programmable   |
| <b>Minimum switching current</b>               | 100 mA at 12 V DC for relay outputs  |

|                                    |   |
|------------------------------------|---|
| <b>Maximum switching current</b>   | Relay outputs 2 A at 250 V AC<br>Relay outputs 2 A at 30 V DC   |
| <b>Discrete output number</b>      | 2   |
| <b>Discrete output type</b>        | (DQ1) programmable digital output <= 30 V<br>(DQ2) programmable digital output <= 30 V  |
| <b>Output compatibility</b>        | Open collector level 1 PLC conforming to IEC 65A-68   |
| <b>Analogue input number</b>       | 1   |
| <b>Analogue input type</b>         | AI1/PTC PTC/Pt 100 temperature probe<br>PTC2 PTC/Pt 100 temperature probe<br>PTC3 PTC/Pt 100 temperature probe  |
| <b>Analogue output number</b>      | 1   |
| <b>Analogue output type</b>        | Current output AQ1: 0...20 mA or 0...10 V, impedance <500 Ohm   |
| <b>Communication port protocol</b> | Modbus serial   |
| <b>Connector type</b>              | 1 RJ45  |
| <b>Communication data link</b>     | Serial  |
| <b>Physical interface</b>          | 2-wire RS 485   |
| <b>Transmission rate</b>           | 1200...256000 bit/s   |
| <b>Transmission frame</b>          | RTU   |
| <b>Data format</b>                 | 8 bits, configurable odd, even or no parity   |
| <b>Type of polarization</b>        | No impedance for Modbus serial  |
| <b>Number of addresses</b>         | 0...227 for Modbus serial   |
| <b>Method of access</b>            | Slave Modbus serial   |
| <b>Function available</b>          | External bypass control<br>Pre-heating<br>Smoke extraction<br>Multi-motor cascade<br>Second motor set<br>User management<br>Ports and services hardening<br>Security event logging<br>Cybersecure firmware update<br>Single direction |
| <b>Display screen available</b>    | True  |
| <b>Operating position</b>          | Vertical +/- 10 degree  |
| <b>Height</b>                      | 275.0 mm  |
| <b>Width</b>                       | 160.0 mm  |
| <b>Depth</b>                       | 203.0 mm  |
| <b>Net weight</b>                  | 4.9 kg  |

## Environment

|   |   |
|---|---|
| <b>Electromagnetic compatibility</b>          | Conducted and radiated emissions level A conforming to IEC 60947-4-2<br>Conducted and radiated emissions with bypass level B conforming to IEC 60947-4-2<br>Damped oscillating waves level 3 conforming to IEC 61000-4-12<br>Electrostatic discharge level 3 conforming to IEC 61000-4-11<br>Immunity to electrical transients level 4 conforming to IEC 61000-4-4<br>Immunity to radiated radio-electrical interference level 3 conforming to IEC 61000-4-3<br>Voltage/current impulse level 3 conforming to IEC 61000-4-5 |
| <b>Pollution degree</b>                       | Level 3   |
| <b>[Uimp] rated impulse withstand voltage</b> | 6 kV  |
| <b>[Ui] rated insulation voltage</b>          | 690 V   |

|   |  |
|---|--|
| <b>Environmental class (during operation)</b>                           | Class 3C3 according to IEC 60721-3-3<br>Class 3S2 according to IEC 60721-3-3       |
| <b>Relative humidity</b>  | 0...95 % without condensation or dripping water conforming to IEC 60068-2-3        |
| <b>Ambient air temperature for operation</b>                            | 40...60 °C (with current derating of 2 % per °C)<br>-15...40 °C (without derating) |
| <b>Ambient air temperature for storage</b>                              | -25...70 °C  |
| <b>Operating altitude</b>   | <= 1000 m without derating<br>> 1000...4000 m with current derating 1 % per 100 m  |
| <b>Maximum deflection under vibratory load (during operation)</b>       | 1.5 mm at 2...13 Hz  |
| <b>Maximum deflection under vibratory load (during storage)</b>         | 1.75 mm at 2...9 Hz  |
| <b>Maximum deflection under vibratory load (during transport)</b>       | 1.75 mm at 2...9 Hz  |
| <b>Maximum acceleration under vibrational stress (during operation)</b> | 10 m/s <sup>2</sup> at 13...200 Hz   |
| <b>Maximum acceleration under vibratory load (during storage)</b>       | 15 m/s <sup>2</sup> at 200...500 Hz<br>10 m/s <sup>2</sup> at 9...200 Hz           |
| <b>Maximum acceleration under vibratory load (during transport)</b>     | 15 m/s <sup>2</sup> at 200...500 Hz<br>10 m/s <sup>2</sup> at 9...200 Hz           |
| <b>Maximum acceleration under shock impact (during operation)</b>       | 150 m/s <sup>2</sup> at 11 ms  |
| <b>Maximum acceleration under shock load (during storage)</b>           | 100 m/s <sup>2</sup> at 11 ms  |
| <b>Maximum acceleration under shock load (during transport)</b>         | 100 m/s <sup>2</sup> at 11 ms  |

## Packing Units

|                                     |           |
|-------------------------------------|-----------|
| <b>Unit Type of Package 1</b>       | PCE       |
| <b>Number of Units in Package 1</b> | 1         |
| <b>Package 1 Height</b>             | 30.000 cm |
| <b>Package 1 Width</b>              | 27.500 cm |
| <b>Package 1 Length</b>             | 37.000 cm |
| <b>Package 1 Weight</b>             | 6.270 kg  |
| <b>Unit Type of Package 2</b>       | P06       |
| <b>Number of Units in Package 2</b> | 8         |
| <b>Package 2 Height</b>             | 75.000 cm |
| <b>Package 2 Width</b>              | 60.000 cm |
| <b>Package 2 Length</b>             | 80.000 cm |
| <b>Package 2 Weight</b>             | 64.800 kg |

## Logistical informations

|                          |    |
|--------------------------|----|
| <b>Country of origin</b> | ID |
|--------------------------|----|

## Contractual warranty

|                 |           |
|-----------------|-----------|
| <b>Warranty</b> | 18 months |
|-----------------|-----------|



## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

### Environmental footprint

Total lifecycle Carbon footprint 4046

Environmental Disclosure [Product Environmental Profile](#)

## Use Better

### Materials and Substances

Packaging made with recycled cardboard Yes

Packaging without single use plastic No

[EU RoHS Directive](#) Pro-active compliance (Product out of EU RoHS legal scope)

SCIP Number 411029a0-6a52-4ec9-8a30-b0c07e93ba50

REACH Regulation [REACH Declaration](#)

## Use Again

### Repack and remanufacture

Recyclability potential, in % 75

End of life manual availability [End of Life Information](#)

Take-back No

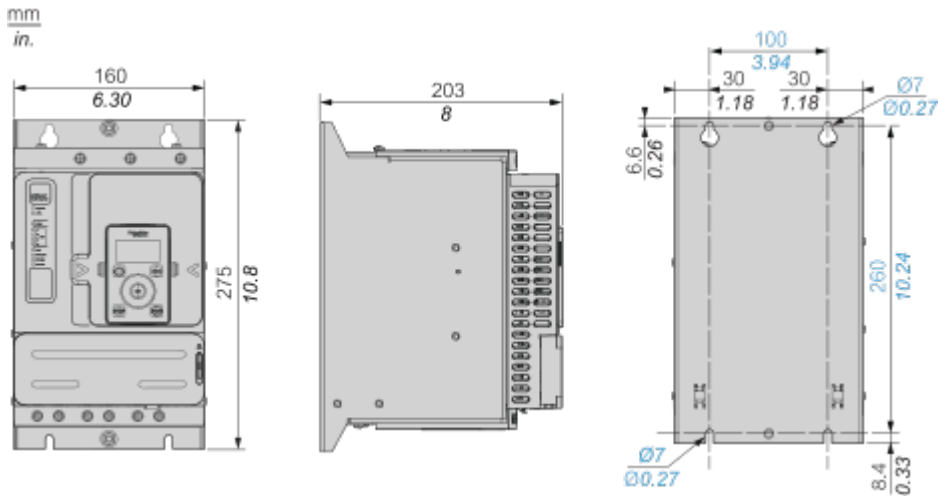
WEEE Label  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

Dimensions

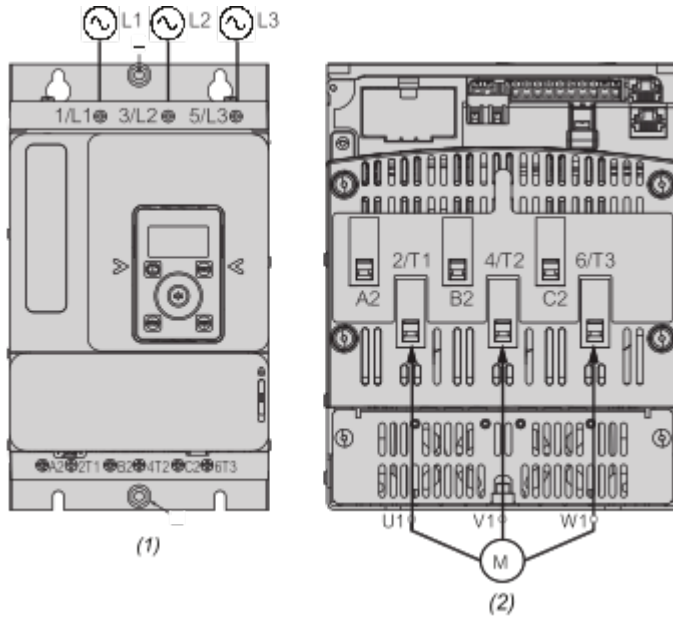
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Front, Side and Rear View



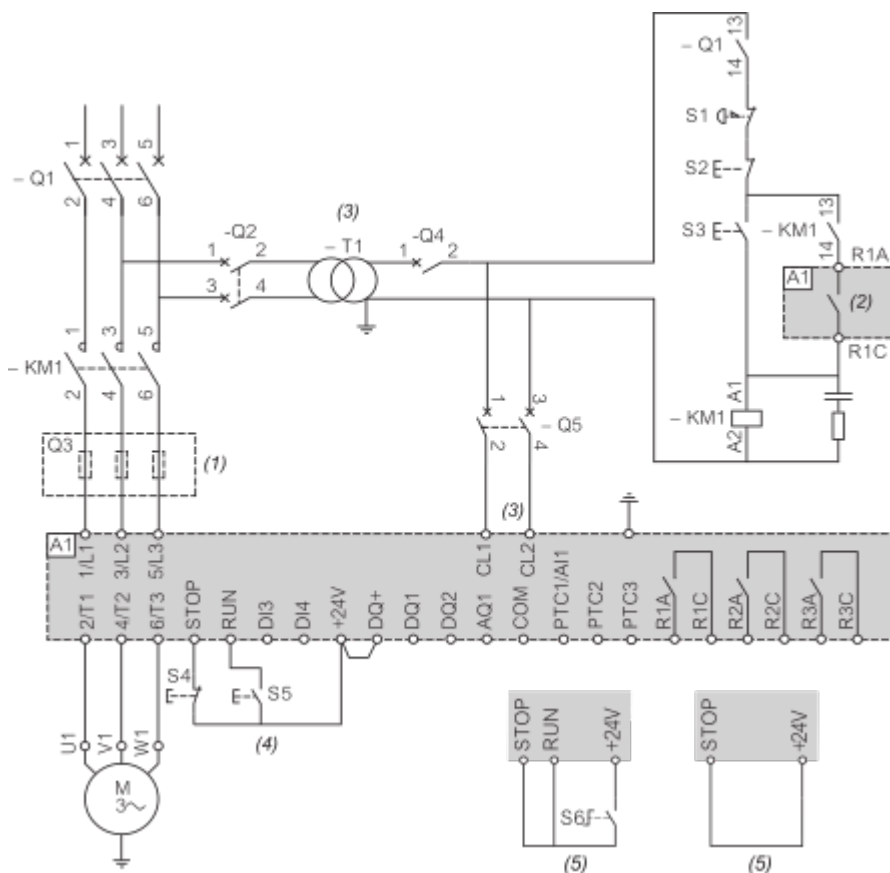
Connections and Schema

Power Connections



- (1) : Mains side
- (2) : Motor side
- 1/L1, 3/L2, 5/L3 : Mains supply inputs
- 2/T1, 4/T2, 6/T3 : Outputs to motor
- A2, B2, C2 : Soft starter bypass

Connection in line, with line contactor, no bypass, type 1 or 2 coordination, non-reversing, 2-wire or 3-wire control



- (1) : Installation of additional fast-acting fuses to upgrade to type 2 coordination according to IEC 60947-4-2.
- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% — 15%, 50/60Hz.
- (4) : RUN and STOP Management (3-wire control).
- (5) : RUN and STOP Management (2-wire control).

Connection in line, with line and bypass contactor, freewheel or controlled stop, type 1 or 2 coordination, non reversing, 2-wire or 3-wire



- (1) : Installation of additional fast-acting fuses to upgrade to type 2 coordination according to IEC 60947-4-2.
- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% - 15%, 50/60Hz.
- (4) : Take into account the electrical characteristics of the relays, especially when connecting to high rating contactor (Control Terminal Characteristics).
- (5) : RUN and STOP Management (3-wire control).
- (6) : RUN and STOP Management (2-wire control).
- (7) : PC or PLC control

Connection inside the delta, with line and bypass contactor, type 1 and 2 coordination, non reversing, 2 wire or 3 wire



- (1) : Installation of additional fast-acting fuses to upgrade to type 2 coordination according to IEC 60947-4-2.
- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% – 15%, 50/60Hz.
- (4) : Take into account the electrical characteristics of the relays, especially when connecting to high rating contactor (Control Terminal Characteristics).
- (5) : RUN and STOP Management (3-wire control).
- (6) : RUN and STOP Management (2-wire control).
- (7) : PC or PLC control

Control block wiring diagram



(1) : Control power supply 110-230 VAC

(2) : External supply 24 VDC

(3) : 2 Wires PTC/PT100

R1A, R1C, R3A, R3C : Sequence relay

R2A, R2C : End of start

STOP, RUN, DI3, DI4 : Digital inputs

AQ1 : Analogue output

PTC1/AI1, PTC2, PTC3 : PTC or PT100 connection

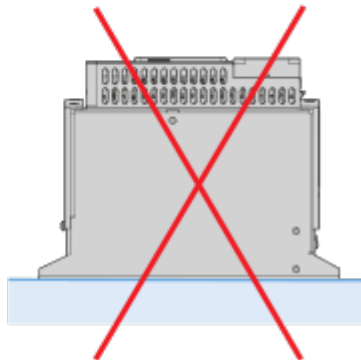
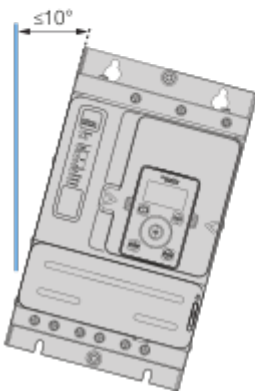
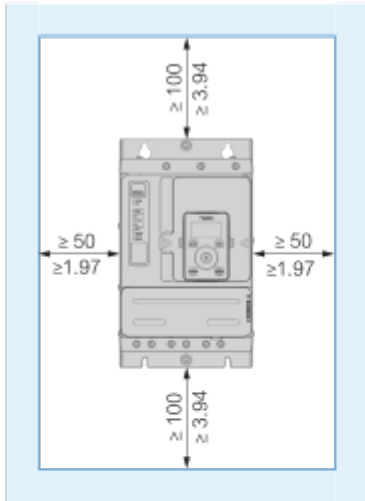
DQ1, DQ2, DQ+ : Digital outputs

Mounting and Clearance

Mounting Position

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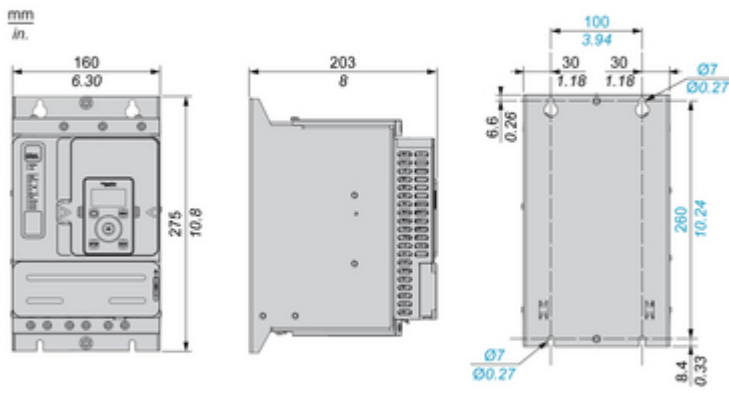
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in.



Technical Illustration

Dimensions

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Technical Illustration

Wiring diagram

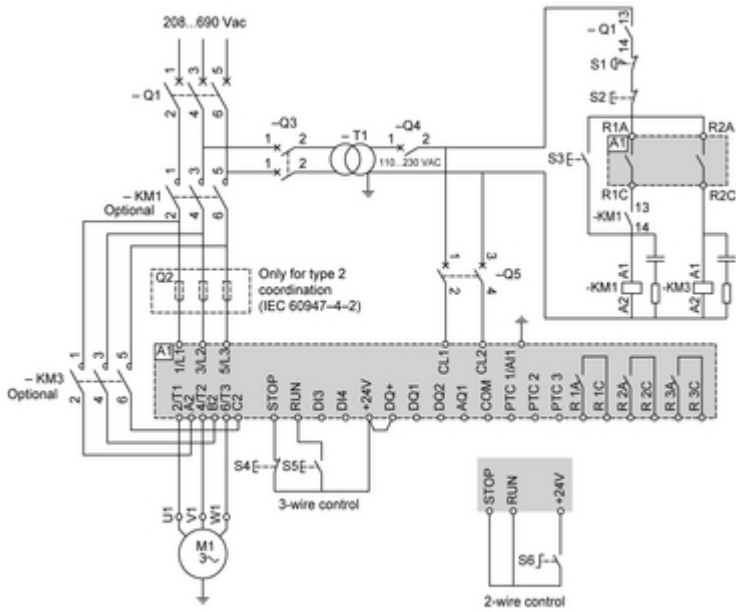


Image of product / Alternate images

Alternative

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