

## Eaton 134958

Eaton DS7 Soft starter, 160 A, 200 - 480 V  
AC, 24 V DC, Frame size: FS4,  
Communication Interfaces: SmartWire-DT

<b>PRODUCT NAME</b>	Eaton DS7 Soft starter
<b>CATALOG NUMBER</b>	134958
<b>PRODUCT LENGTH/DEPTH</b>	195 mm
<b>PRODUCT HEIGHT</b>	215 mm
<b>PRODUCT WIDTH</b>	108 mm
<b>PRODUCT WEIGHT</b>	3.7 kg
<b>COMPLIANCES</b>	CE Marked C-Tick Compliant
<b>CERTIFICATIONS</b>	UL Listed EN 60947-4-2 IEC 60947-4-2 CSA Certified CE CSA UL 508 UkrSEPRO CSA-C22.2 No 14-05 UL CSA22.2-14 GB 14048.6 C-Tick IEC/EN 60947-4-2 CSA-C22.2 No 0-M91

<b>BYPASS</b>	Internal
<b>CONTROL VOLTAGE</b>	24 Vdc
<b>HORSEPOWER</b>	125 hp
<b>PHASE</b>	Three-phase mains supply voltage
<b>TYPE</b>	Soft starter for three-phase loads
<b>VOLTAGE RATING</b>	480 V
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.

<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">eaton-soft-starter-declaration-of-conformity-uk251010en.pdf</a>
	<a href="#">eaton-softstarter-s811-ds7-brochure-br039001en-en-us.pdf</a>
	<a href="#">eaton-ds7-soft-starter-mn03901001z-en-us.pdf</a>
	<a href="#">eaton-semiconductor-contactors-swd-ds7-soft-starter-dimensions-002.eps</a>
	<a href="#">eaton-semiconductor-contactors-softstarter-ds7-3d-drawing-007.eps</a>

<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Internal bypass Internal bypass contacts
<b>FUSE SIZE</b>	500 A class RK5 max
<b>POLLUTION DEGREE</b>	2
<b>CIRCUIT BREAKER TYPE</b>	HLD3450
<b>CLASS</b>	Other
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-3 Damp heat, cyclic, to IEC 60068-2-30
<b>CONNECTION TO SMARTWIRE-DT</b>	Yes
<b>FRAME SIZE</b>	4 3 FS4
<b>ALTITUDE</b>	Above 1000 m with 1 % derating per 100 m Max. 2000 m
<b>AMBIENT OPERATING</b>	40 °C

<b>TEMPERATURE - MAX</b>	
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-5 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	60 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-25 °C
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	50 HP
<b>ASSIGNED MOTOR POWER AT 220/230 V, 60 HZ, 3-PHASE</b>	60 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	125 HP
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	30 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0 W
<b>MAINS VOLTAGE - MAX</b>	480 V
<b>MAINS VOLTAGE - MIN</b>	200 V
<b>ENVIRONMENTAL RATING</b>	IP20
<b>SERIES</b>	Generation 7
<b>OUTPUT VOLTAGE</b>	250 V AC (relay outputs)
<b>NUMBER OF OUTPUTS</b>	2 Relay Outputs (TOR, Ready)
<b>SCREWDRIVER SIZE</b>	0.6 x 3.5 mm, Terminal screws, Control circuit cables PZ2, 1 x 6 mm, Terminal screw, Standard screwdriver
<b>VOLTAGE TYPE</b>	DC
<b>RATED OPERATIONAL VOLTAGE (UE) - MIN</b>	230 V
<b>RATED POWER THREE-PHASE MOTOR, INLINE, AT 230 V</b>	45 kW
<b>RATED POWER THREE-PHASE MOTOR, INLINE, AT 400 V</b>	90 kW
<b>RATED POWER THREE-</b>	0 kW

<b>PHASE MOTOR, INSIDE DELTA, AT 230 V</b>	
<b>RATED POWER THREE- PHASE MOTOR, INSIDE DELTA, AT 400 V</b>	0 kW
<b>STATIC HEAT DISSIPATION, NON- CURRENT-DEPENDENT PVS</b>	30 W
<b>VOLTAGE RATING - MAX</b>	480 V
<b>APPLICATION</b>	<ul style="list-style-type: none"> <li>• 1-phase motors: No</li> <li>• 3-phase motors: Yes</li> <li>• Soft starting of three-phase asynchronous motors</li> </ul>
<b>PRODUCT CATEGORY</b>	SmartWire-DT slave
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact
<b>MOUNTING POSITION</b>	Vertical
<b>DROP-OUT VOLTAGE</b>	0 - 3 V, DC operated
<b>OVERVOLTAGE CATEGORY</b>	II
<b>DEGREE OF PROTECTION</b>	IP20 NEMA 1
<b>CURRENT CONSUMPTION</b>	0,6 A/50 ms, Control circuit, Regulator supply at peak performance (close bypass) at 24 V DC 1.6 mA, Control circuit, Digital inputs, External 24 V 50 mA, Control circuit, Regulator supply
<b>CURRENT LIMITATION</b>	(0 - 8) x I <sub>e</sub> , Soft start function
<b>FUNCTIONS</b>	Current limitation, with PKE Potential isolation between power and control sections Single direction Min. ramp time 1 s - fast switching (semiconductor contactor) Suppression of closing transients

	Suppression of DC components for motors Soft start function
<b>DELAY TIME</b>	0 - 30 s, Soft start function, Ramp times
<b>OVERLOAD CYCLE</b>	AC-53a: 3 - 5: 75 - 10
<b>DROP-OUT TIME</b>	350 ms, Control circuit, Digital Inputs, DC operated
<b>PICK-UP VOLTAGE</b>	17.3 - 27 V DC
<b>RADIO INTERFERENCE CLASS</b>	Class B (EN 55011)
<b>FAULT MEMORY</b>	8 Faults
<b>PICK-UP TIME</b>	250 ms at DC
<b>INTERFACES</b>	SmartWire-DT (built-in)
<b>RATED CONTROL VOLTAGE (UC)</b>	24 V DC 24 V DC (-15 %/+10 %) or via SmartWire-DT
<b>SUPPLY FREQUENCY</b>	50/60 Hz, fLN, Main circuit
<b>TERMINAL CAPACITY (STRANDED)</b>	1 x (0.5 - 1.5) mm <sup>2</sup> , Control circuit cables 1 x (4 - 185) mm <sup>2</sup> , Main cables 2 x (4 - 70) mm <sup>2</sup> , Main cables 2 x (0.5 - 1.0) mm <sup>2</sup> , Control circuit cables
<b>RATED OPERATIONAL CURRENT</b>	160 A
<b>TERMINAL CAPACITY (COPPER BAND)</b>	10 x 16 x 0.8 mm, Main cables 2 x 9 x 0.8 mm, Main cables
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	24 V
<b>RATED CONTROL SUPPLY</b>	24 V

<b>VOLTAGE (US) AT DC - MIN</b>	
<b>RATED OPERATIONAL CURRENT (IE) AT AC-11</b>	1 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-53</b>	160 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	160 A
<b>RATED OPERATIONAL POWER AT 220/230 V, 50 HZ</b>	45 kW
<b>RATED OPERATIONAL POWER AT 400 V, 50 HZ</b>	90 kW
<b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>	480 V
<b>VIBRATION RESISTANCE</b>	2M2 to EN 60721-3-2
<b>RAMP/RUN-UP TIME</b>	1 - 30 s
<b>SHOCK RESISTANCE</b>	8 g, 11 ms, Mechanical
<b>SUITABLE FOR</b>	Branch circuits, (UL/CSA)
<b>TIGHTENING TORQUE</b>	5 Nm ( $\leq 10 \text{ mm}^2$ ) 0.4 Nm, Screw terminals, Control circuit cables 14 Nm ( $> 10 \text{ mm}^2$ )
<b>SHORT-CIRCUIT PROTECTION RATING</b>	NZMN2-M200, Type "1" coordination, Main conducting paths 3 x 170M5008, Type „2“ coordination (additional with the fuses for coordination type „1“), Main conducting paths
<b>START VOLTAGE</b>	Max. 100 %, Soft start function, Start voltage = turn-off voltage Min. 30 %, Soft start function, Start voltage = turn-off voltage
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	1 x (0.5 - 1.5) mm <sup>2</sup> , Control circuit cables 2 x (0.5 - 0.75) mm <sup>2</sup> , Control circuit cables
<b>TERMINAL CAPACITY (SOLID)</b>	1 x (4 - 185) mm <sup>2</sup> , Main cables 2 x (4 - 70) mm <sup>2</sup> , Main cables 2 x (0.5 - 1.0) mm <sup>2</sup> , Control circuit cables 1 x (0.5 - 2.5) mm <sup>2</sup> , Control circuit cables

<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	2 x (21 - 18), Control circuit cables
	1 x (12 - 350 kcmil), Main cables
	1 x (21 - 14), Control circuit cables
	2 x (12 - 00), Main cables
<b>WIRE TYPE</b>	SmartWire-DT

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>
:



Eaton House  
30 Pembroke Road  
Dublin 4,  
Eaton.com  
  
© 2025

Follow us on social media to get the latest product and support information.

