

Snow melting and de-icing power distribution and control panel for three-phase heating cables

The DigiTrace SMPG3 is a three-phase power distribution panel for three-phase heating cables that includes ground-fault protection, monitoring and control for snow melting or roof and gutter de-icing systems. The ETI® EUR-5A snow melting and gutter de-icing controller is included with the SMPG. When used with one or more compatible sensors, the EUR-5A automatically controls surface snow melting and roof and gutter de-icing heating cables for minimum energy costs. Applications include pavement, sidewalk, loading dock, roof, gutter, and down spout snow/ice melting in commercial and industrial environments.

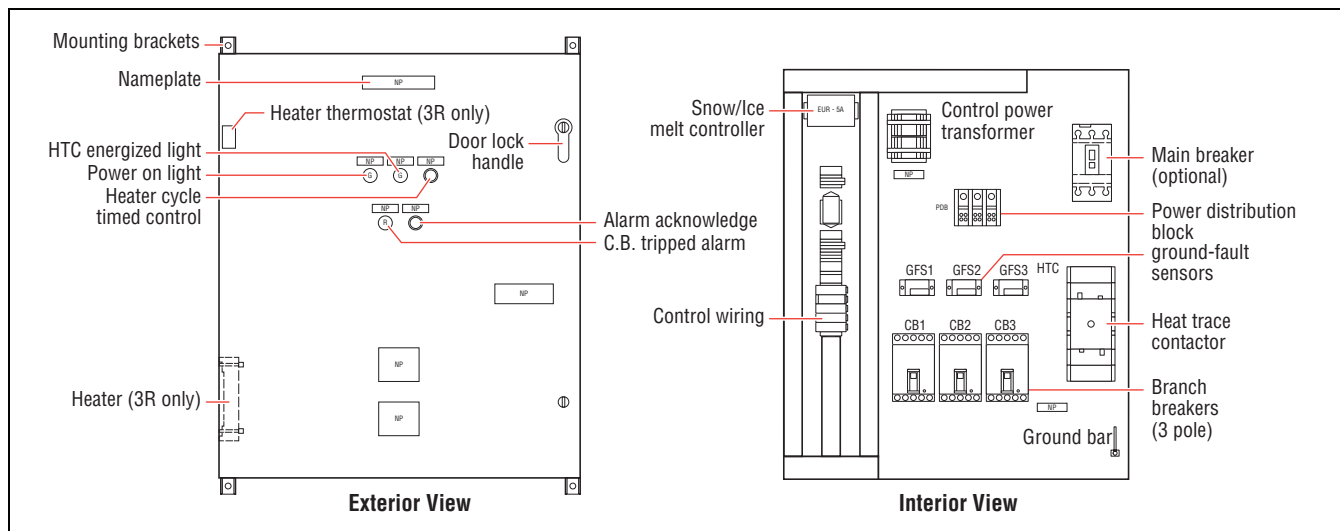
The adjustable hold-on timer continues heater operation for up to 10 hours after snow stops to ensure complete melting.

The calibrated 40°F to 90°F (4°C to 32°C) high limit slab sensor prevents excessive temperatures when using constant wattage and MI heating cables. It also permits safe testing at outdoor temperatures too high for continuous heater operation. The temperature sensor is included.

The EUR-5A provides a complete interface for use in environments supervised by an energy management computer (EMC). This

feature can also be used for general purpose remote control and annunciation. All sensor and communications wiring is NEC Class 2. This simplifies installation while enhancing fire and shock safety. Multiple sensors provide superior performance by better matching the controller to site performance requirements. The EUR-5A can interface up to eight sensors.

For single-phase heating cable configurations, refer to the SMPG1 data sheet (H57680). For additional information on three-phase snow melting designs, contact your Tyco Thermal Controls representative.



SMPG3

Ambient operating temperature	Indoor installation (NEMA 1/12): Outdoor installation (NEMA 3R/4):	14°F (-10°C) to 122°F (50°C) -40°F (-40°C) to 122°F (50°C) (Includes space heater and thermostat)
Main contactor	3-pole	100 A or 200 A
Main circuit breaker (optional)	(15–150 A) 3-pole (150–200 A) 3-pole	Square D type HDL (Installed in panel when ordered/needed) Square D type JDL (Installed in panel when ordered/needed)
Operating heating cable voltage	208, 480, or 600 V, three phase	
Branch ground-fault breaker	Square D type QOB-1021 (15A–100 A) for 208 V Square D type HDL-1021 (15A–150 A) for 600 V JDL-1021 (160–200) (All the above are Shunt trip C.B. with external ground-fault sensor)	
Circuit breaker rating	15–150 A	
Field wire size (Copper wires)	#12–8 AWG (15–30 A C.B.), #8–2 AWG (40–50 A C.B.), #6–1/0 AWG (60–100 A C.B.), #1/0 AWG–350 kcmil (150 A C.B.)	

To comply with NEC Article 427-55(a), all circuit breakers are equipped with the means for lock-out in the "Off" position.

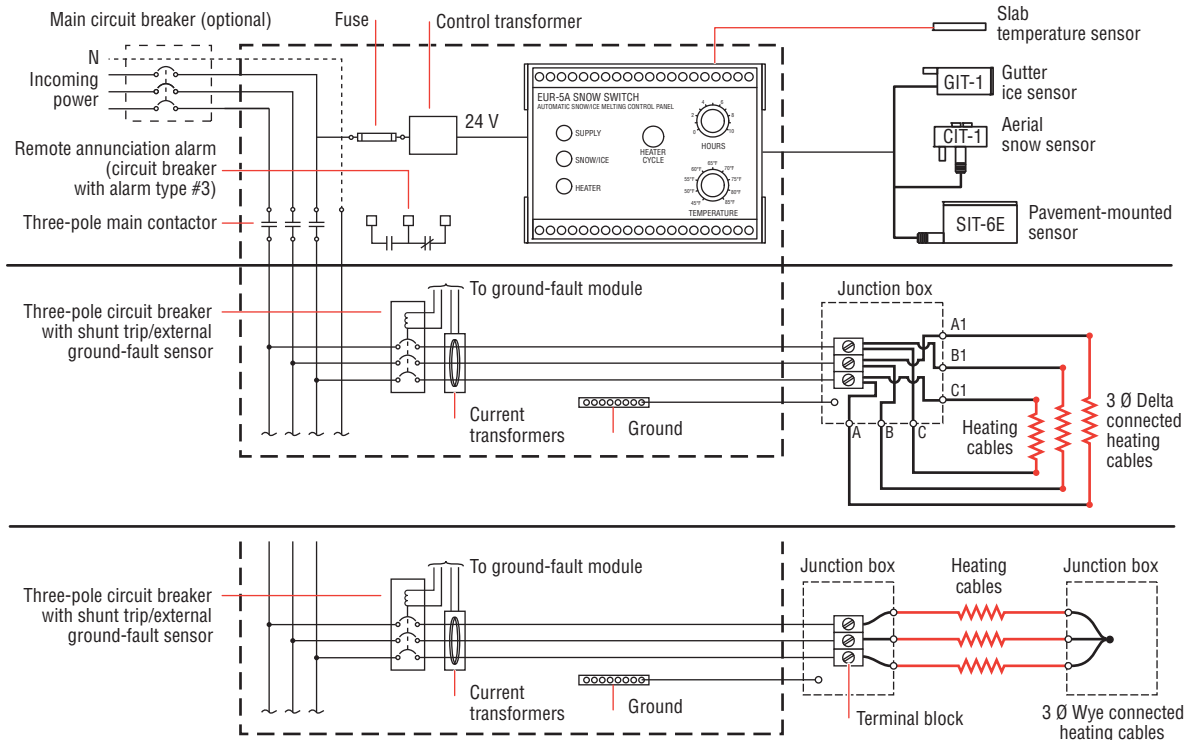
Approvals



Ground-Fault Protection

To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of Tyco Thermal Controls, agency certifications, and national electrical codes, ground-fault equipment protection must be used on each heating cable branch circuit. Arcing may not be stopped by conventional circuit protection. Many DigiTrace control and monitoring systems meet the ground-fault protection requirement.

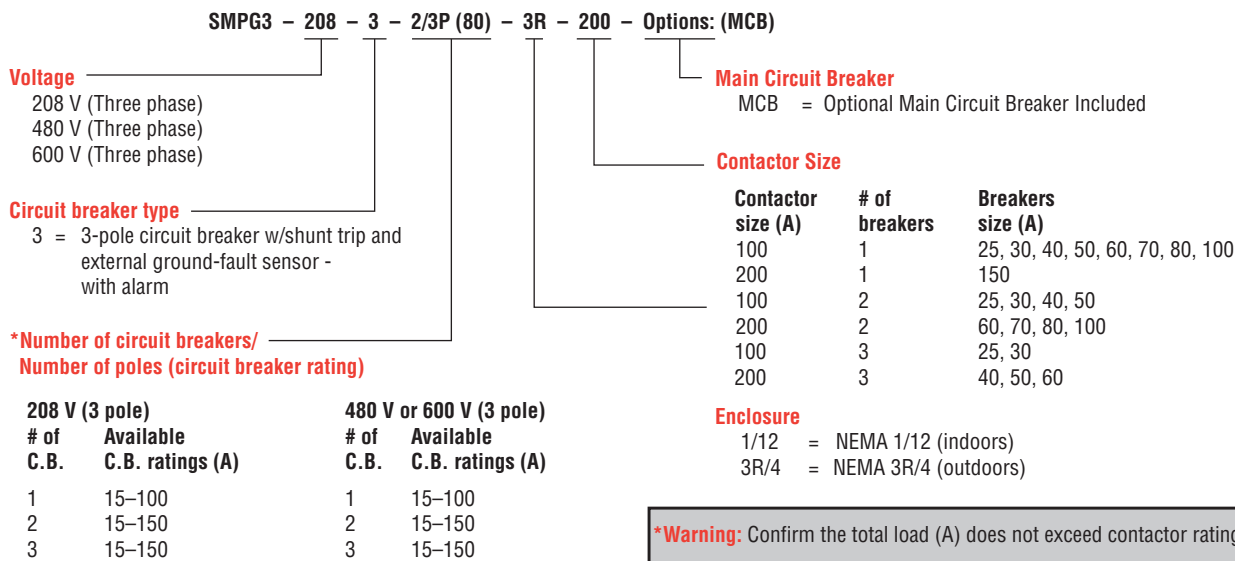
SMPG3 Snow Melting and Roof & Gutter De-Icing Control Schematic



Catalog number

SMPG3 comes in a variety of configurations. The following chart outlines the elements that constitute a configuration and the corresponding catalog number. If standard configurations do not meet your needs, custom SMPG panels are available and processed under the catalog number SMPG-GENERAL, part number P000000763. Please contact your Tyco Thermal Controls representative for a custom SMPG panel quotation. Non-standard configurations will carry ETL certification, not a UL Listing.

SMPG3 – Voltage – Circuit breaker type – Number of circuit breakers/Number of poles (rating) – Enclosure – Contactor size



EUR-5A

Supply Voltage/Max current	21 to 28 Vac/2 A
Control transformer	Included
Operating temperature	-40°F (-40°C) to 140°F (60°C)
Hold on time adjustment	0 to 10 hours
High temperature limit adjustment	40°F (4°C) to 90°F (32°C)
Moisture/temperature sensors	Up to six can be used simultaneously. Members of the CIT-1/GIT-1/SIT-6E family in any combination. Locate up to 2,000 ft (609.6 m) for EUR-5A.
Ambient temperature sensor	Included
Remote interface	RCU-3 Remote Control Unit (can operate up to 500 ft [152 m] from panel)
Building/Energy management computer interface	5 Vdc @ 10 mA

Main Circuit Breakers

Installed in Control Panel			
MCB rating	Voltage	Catalog number	Part number
50 A	120-600 V	HDL36050	T1010097
100 A	120-600 V	HDL36100	T1010101
110 A	120-600 V	HDL36110	T1010102
125 A	120-600 V	HDL36125	T1009792
150 A	120-600 V	HDL36150	T1010087
175 A	120-600 V	JDL36175	T1010053
200 A	120-600 V	JDL36200	T1010103
225 A	120-600 V	JDL36225	T1009945
250 A	480 or 600 V	JDL36250	T1010104

Power Distribution

Catalog Number	Part Number	Description	Size
SMPG3 Snow Melting and De-Icing Power Distribution and Control Panel - NEMA 1/12			
208 V 3-pole NEMA 1/12 Enclosure			
SMPG3-208-3-1/3P(XX)-1-100	P000000476	SMPG with (1) 15–100 A breaker, GF sensor with alarm, 100 A contactor	30x24x8
SMPG3-208-3-1/3P(XX)-1-200	P000000477	SMPG with (1) 15–150 A breaker, GF sensor with alarm, 200 A contactor	30x24x8
SMPG3-208-3-2/3P(XX)-1-100	P000000478	SMPG with (2) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x8
SMPG3-208-3-2/3P(XX)-1-200	P000000479	SMPG with (2) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x8
SMPG3-208-3-3/3P(XX)-1-100	P000001381	SMPG with (3) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x8
SMPG3-208-3-3/3P(XX)-1-200	P000000480	SMPG with (3) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x8
480 V 3-pole NEMA 1/12 Enclosure			
SMPG3-480-3-1/3P(XX)-1-100	P000000481	SMPG with (1) 15–100 A breaker, GF sensor with alarm, 100 A contactor	30x24x8
SMPG3-480-3-1/3P(XX)-1-200	P000001382	SMPG with (1) 15–150 A breaker, GF sensor with alarm, 200 A contactor	30x24x8
SMPG3-480-3-2/3P(XX)-1-100	P000000482	SMPG with (2) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x8
SMPG3-480-3-2/3P(XX)-1-200	P000000483	SMPG with (2) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x8
SMPG3-480-3-3/3P(XX)-1-100	P000001383	SMPG with (3) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x8
SMPG3-480-3-3/3P(XX)-1-200	P000000484	SMPG with (3) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x8
600 V 3-pole NEMA 1/12 Enclosure			
SMPG3-600-3-1/3P(XX)-1-100	P000000494	SMPG with (1) 15–100 A breaker, GF sensor with alarm, 100 A contactor	30x24x8
SMPG3-600-3-1/3P(XX)-1-200	P000001384	SMPG with (1) 15–150 A breaker, GF sensor with alarm, 200 A contactor	30x24x8
SMPG3-600-3-2/3P(XX)-1-100	P000000495	SMPG with (2) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x8
SMPG3-600-3-2/3P(XX)-1-200	P000000496	SMPG with (2) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x8
SMPG3-600-3-3/3P(XX)-1-100	P000000497	SMPG with (3) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x8
SMPG3-600-3-3/3P(XX)-1-200	P000000498	SMPG with (3) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x8
SMPG3 Snow Melting and De-Icing Power Distribution and Control Panel - NEMA 3R/4			
208 V 3-pole NEMA 3R/4 Enclosure			
SMPG3-208-3-1/3P(XX)-3R-100	P000000485	SMPG with (1) 15–100 A breaker, GF sensor with alarm, 100 A contactor	24x30x10
SMPG3-208-3-1/3P(XX)-3R-200	P000000486	SMPG with (1) 15–150 A breaker, GF sensor with alarm, 200 A contactor	24x30x10
SMPG3-208-3-2/3P(XX)-3R-100	P000000487	SMPG with (2) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x10
SMPG3-208-3-2/3P(XX)-3R-200	P000000488	SMPG with (2) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x10
SMPG3-208-3-3/3P(XX)-3R-100	P000001385	SMPG with (3) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x10
SMPG3-208-3-3/3P(XX)-3R-200	P000000489	SMPG with (3) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x10
480 V 3-pole NEMA 3R/4 Enclosure			
SMPG3-480-3-1/3P(XX)-3R-100	P000000490	SMPG with (1) 15–100 A breaker, GF sensor with alarm, 100 A contactor	24x30x10
SMPG3-480-3-1/3P(XX)-3R-200	P000001386	SMPG with (1) 15–150 A breaker, GF sensor with alarm, 200 A contactor	24x30x10
SMPG3-480-3-2/3P(XX)-3R-100	P000000491	SMPG with (2) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x10
SMPG3-480-3-2/3P(XX)-3R-200	P000000492	SMPG with (2) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x10
SMPG3-480-3-3/3P(XX)-3R-100	P000001387	SMPG with (3) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x10
SMPG3-480-3-3/3P(XX)-3R-200	P000000493	SMPG with (3) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x10
600 V 3-pole NEMA 3R/4 Enclosure			
SMPG3-600-3-1/3P(XX)-3R-100	P000000499	SMPG with (1) 15–100 A breaker, GF sensor with alarm, 100 A contactor	24x30x10
SMPG3-600-3-1/3P(XX)-3R-200	P000001388	SMPG with (1) 15–150 A breaker, GF sensor with alarm, 200 A contactor	24x30x10
SMPG3-600-3-2/3P(XX)-3R-100	P000000500	SMPG with (2) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x10
SMPG3-600-3-2/3P(XX)-3R-200	P000000501	SMPG with (2) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x10
SMPG3-600-3-3/3P(XX)-3R-100	P000000502	SMPG with (3) 15–100 A breakers, GF sensor with alarm, 100 A contactor	36x36x10
SMPG3-600-3-3/3P(XX)-3R-200	P000000503	SMPG with (3) 15–150 A breakers, GF sensor with alarm, 200 A contactor	36x36x10

Accessories

ETI Sensors	Catalog number	Part number
Pavement-mounted sensor	SIT-6E	P000000112
Aerial snow sensor	CIT-1	512289
Gutter ice sensor	GIT-1	126795

Replacement Controller		
Snow melting and gutter de-icing controller	EUR-5A	T0001527

**Worldwide Headquarters
Tyco Thermal Controls**

7433 Harwin Drive
Houston, TX 77036
USA
Tel: 800-545-6258
Tel: 650-216-1526
Fax: 800-527-5703
Fax: 650-474-7711
info@tycothermal.com
www.tycothermal.com

**Canada
Tyco Thermal Controls**

250 West St.
Trenton, Ontario
Canada K8V 5S2
Tel: 800-545-6258
Fax: 800-527-5703

**Europe, Middle East, Africa (EMEA)
Tyco Thermal Controls**

Romeinse Straat 14
3001 Leuven
België / Belgique
Tel: +32 16 213 511
Fax: +32 16 213 603

**Latin America
Tyco Thermal Controls**

7433 Harwin Drive
Houston, TX 77036
United States
Tel: 713-868-4800
Tel: 713-735-8645
Fax: 713-868-2333

**Asia Pacific
Tyco Thermal Controls**

20F, Innovation Building,
1009 Yi Shan Rd,
Shanghai 200233,
P.R.China
Tel: +86 21 2412 1688
Fax: +86 21 5426 2937 / 5426 3167

Tyco, Alliance Integrated Systems, AMC, AutoMatrix, AutoSol, BTV, CapaciSense, Chemelex, DHSX, DigiTrace, DigiTrace logo, DigiTrace Supervisor, Duoterm, ElectroMelt, EM2XR, FHSM, FHSC, FlexFit, FlexiClic, Flowguard, FreezeTrace, FreezGuard, Frostex, Frostex Plus, Frostguard, FroStop, FSE, Gardian, HAK, Handvise, HBTv, HCCL, HotCap, HQTv, HTPG, HTPi, HWAT, HXTv, IceStop, Interlock, Isocable, Isodrum, Isoheat, Isomantle, Isopad, Isopad Frostguard, Isopad logo, Isopanel, Isotape, Isotherm, JBM, JBS, K-Flex, K-Flex logo, KHE, KHH, KHL, KHP, KTV, Labsafe, LBTv, LHC, LHFV, LHRV, Metabond, Mini WinterGard, Miser WinterGard, MoniTrace, Multi-plus, NGC, PetroTrace, PLI, PolyMatrix, Pyro CiC, PyroFLX, Pyromaster, Pyropak, Pyrosil, PyroSizer, Pyrotenax, Pyrotenax Designer, Pyrotenax logo, QTVR, QuickNet, QuickNet logo, QuickStat, QuickTerm, RayClic, RaySol, RayStat, Retro WinterGard, RHS, RHSC, RHSM, RMM2, SBF, SBV, SC, SHC, Sheathmaster, ShowerGuard, SLBTv, Smart Heat for Comfort and Safety, SnoCalc, SnoCalc logo, STS, System 500, System 1850, System 1850-SE, System 2000, System 2200, T2, T2 logo, T2Blue, T2QuickNet, T2Red, T2Reflecta, TankCalc Plus, TempBus, Thermoheat, ThermoLimit, Thermo-Line, Total Care in Heat-tracing, Touch, Trac-Loc, Trac Calc, TraceCalc Net, TraceCalc Net logo, TraceCalc Pro logo, TraceGuard 277, TraceMaster, Tracer, Tracer logo, TRACERLYNX, TRACERLYNX logo, TraceStat, TraceTek, TraceTek logo, TruckPak, VLBTv, VLKTv, VPL, We manage the heat you need, WinterGard, WinterGard logo, WinterGard Plus, WinterGard Wet, XL-ERATE, XL-ERATE logo, XL-Trace, XTV and Zero EMI are registered and/or unregistered trademarks of Tyco Thermal Controls LLC or its affiliates.

All other trademarks are the property of their respective owners.



Important: All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. Tyco Thermal Controls makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. Tyco Thermal Controls' only obligations are those in the Tyco Thermal Controls Standard Terms and Conditions of Sale for this product, and in no case will Tyco Thermal Controls or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, Tyco Thermal Controls reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.