The ZENER Smartstart-480 Soft starter

Ideal for:

- ✓ Centrifugal pumps
- ✓ Fans and blowers
- ✓ Compressors and chillers
- ✓ Augers, screw feeders and elevators
- ✓ Centrifugal crushers
- ✓ Chain conveyors
- ✓ Pulley and chain drives
- ✓ Conveyor belts
- ✓ Industrial Machinery

A better start electrically...

- ✓ Eliminates high starting currents and transients
- ✓ Reduces peak demand of plant
- ✓ Easy adjustment with onboard LED display
- ✓ Easy to wire and install
- ✓ Direct replacement for auto-transformer, start-delta and resistance starters

Our commitment to technology

Since 1982 Zener has been acknowledged as being at the leading edge of electronic motor start technology.

Our development and design capabilities are closely linked to an integrated client service commitment. The Smartstart-480 is the product of that integration.

A soft starter with a small footprint. A fully featured unit designed to reduce add-ons but one that is simple to understand and easy to install.

A world class soft starter manufactured to close standards, with back-up service and support from a dedicated team of application specialists.

The ZENER Smartstart-480 is breakthrough electronic motor start technology. A soft starter to meet the demands of industry. A soft starter demanded by industry. A soft starter for the 21st century.

A better start mechanically...

- ✓ Produces smoother starts by controlling torque
- ✓ Saves early motor bearing failure
- ✓ Prolongs gearbox life
- ✓ Prevents V belt slip
- ✓ Eliminates sprocket tooth distortion
- ✓ Eliminates excessive slippage on conveyors
- ✓ Reduces water hammer on pump systems.

ZENER - Electronic motor control specialists

Smartstart-480
Soft starter
Technical Specifications

Ratings

Temperature:	-20 to 60ºC storage 0 to 55ºC operating (derate 1% per ºC over 45ºC)						
Humidity:	0 to 95% rh non-condensing						
Line voltage:	3 phase 208-480VAC (±10%) 50/60Hz						
Control voltage:	110/220-240VAC(±10%)						
Enclosure:	sheet metal to IP00; forced air ventilation						
Duty: Medium duty (MD) Heavy duty (HD)	100% rated current plus 12 starts per hour, each of (MD) 300% / 30 seconds or (HD) 450% / 30 seconds						
Models:	**A80**	**A85**	**A115**	**A175**	**A300**	**A450**	**A650**
Medium duty (cyclic):	85/136	91/147	125/200	195/315	345/550	530/850	750/1200
Medium duty (bypass):	92/150	100/161	145/235	220/355	360/580	550/880	830/1330
Heavy duty (cyclic):	58/95	63/101	88/140	135/215	235/375	370/595	550/880
Heavy duty (bypass):	62/100	68/109	97/155	147/235	250/400	380/610	550/880
Dimensions mm / (in):	450 (17.6) height 280 (11.0) width 230 (9.0) depth				775 (30.4) height 335 (13.1) width 270 (10.6) depth		
Mass: kg / (lbs):	18 (39.6)				60 (132)		
NOTES:	1. The above ratings are in amps - 3 wire / 6 wire 2. Cyclic is continuous duty with a 2 minute pause before restart						

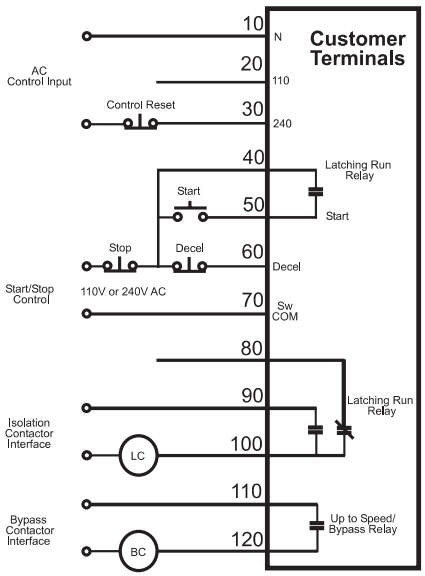
Adjustments

Motor rated current:	10% to 100% of unit rating
Initial torque:	200% to 450% of motor full load current in 25% steps
Ramp up time:	1, 2, 5, 10, 30, 45, 60 seconds
Ramp down time:	0.5, 1, 2, 4 multiplier of ramp up time
Current limit:	200% to 450% of motor full load current in 25% steps
Auto restart:	selectable
Pump stop:	adjustable deceleration profile to minimise water hammer
Pulse start:	0.5, 1 or 2 second pulse of 450% motor current

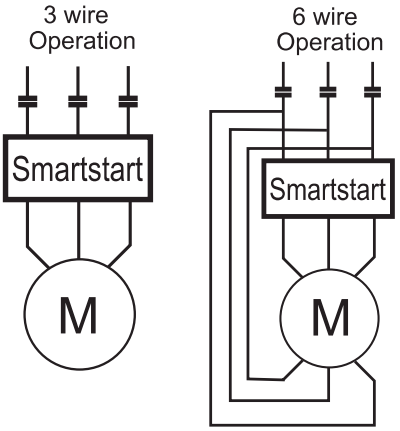
Features

Control method:	microprocessor based control pcb
Ramp type:	voltage ramp or current limit
Over voltage protection:	high voltage SCRs; RC snubber networks
Short circuit protection:	ultra fast semiconductor fuses included
Electronic motor protection:	phase loss and motor stall detect
Equipment protection:	over temperature, bypass failure, SCR failure
Operating modes:	ramp up; ramp down and running by SCR control
Status indication:	power on, stand-by, accelerating, up to speed, bypass mode, decelerating, energy save, 3 wire mode
Fault indication:	fault, control voltage, bypass fault, over temperature, phase reversal, motor stalled, phase loss A/B/C
External connections:	2 or 3 wire start stop, healthy run relay, ramp complete relay (all contacts rated 10A @ 250VAC resistive, 2A @ 250VAC reactive)

Typical Control Wiring



Power Wiring



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