

www.timpsontraining.com
info@timpsontraining.com
(410)656-0650

PO Box 948
Rising Sun, MD 21911



Inspiring safety
through passion
and ingenuity.

HIGH VOLTAGE TRAINING UNIT



ENERGIZED HIGH VOLTAGE TRAINING - WITHOUT THE RISK

A TRAINING YARD SAFETY SYSTEM DESIGNED BY LINEMEN, FOR LINEMEN.

SPECIFICATIONS

- PROCESSOR SCAN TIMES:
 - Average Scan Time:
1-2 ms/program cycle
- SAFETY RELAY INFO:
 - SIL 3
 - Release Time: $t < 20\text{ ms}$
- MEAN TIME TO OPEN UPON DETECTED FAULT:
 - $t < 60\text{ ms}$
- SAFETY RATINGS:
 - Fail Safe I/O:
SIL Level 3 (per IEC 61508);
 - Safety Relay (Master)
SIL Level 3 (per IEC 62061);
 - Safety Relay (Redun.)
SIL Level 3 (per IEC 62061)
- SAFETY INTEGRITY LEVEL (SIL) INFO:
 - Probability of Failure per Hour:
 - SIL Level 3: $0.000\,000$
 $1 - 0.000\,000\,01\ (10^{-7}-10^{-8})$
- INTERNATIONAL ELECTRO-TECHNICAL COMMISSION (IEC) STANDARDS INFO:
 - IEC 61508 – Electrical Safety of Electrical/Electronic/Programmable safety related systems;
 - IEC 62061 – Safety for Machinery
- CURRENT TRANSDUCER & ANALOG INPUT INCREMENTAL RESOLUTION:
 - $0.000\,01\text{ A}\ (10\mu\text{A})$ Increments
- LISTINGS
 - UL 508A Industrial Control Panel

In order to survive in the field and/or reduce risks linemen must be able to think critically & clearly, and solve problems quickly under extreme stress. This can be difficult, so training instructors should do live energized training drills, to give students the opportunity to develop these skills. The overall goal of this behavioral training is to heighten awareness and instill good habits in students through repeated exposure to real-world situations they will find themselves in.

The Timpson Training Yard Panel is a state-of-the-art system that allows line workers to train using the same real-world voltage that they will see every day on the job, while at the same time keeping the current to a safe, non-lethal level. Whether you are learning skills for the first time, or are a trainer that sees the benefits of training your crew safely with full voltage, we can customize your training yard control system, for your yard.

The base model can safely energize one circuit in your training yard, while more advanced models can energize up to nine circuits. Have a yard that has more than nine circuits? Contact Timpson directly to have us build a custom plan to suit your yard exclusively.



FREQUENTLY ASKED QUESTIONS

Q: *What is the current set-point within the monitoring circuit?*
A: While that exact number is training yard specific, the base-rate is between 1 to 1.5mA of current, as calculated on the High-Voltage side.

Q: *What is the let-through current after the system detects a fault?*
A: Testing in our lab consistently returned let through currents of fewer than 20mA.

Q: *After a fault is detected, how much time passes before the line is de-energized?*
A: Testing in our lab shows a mean-time to open in fewer than 59ms.

Q: *Will Timpson install the system in our training yard?*
A: Unfortunately no, Timpson does not possess the capabilities to install our systems throughout the country and/or globally. We can however, work to answer any questions that your installation contractor may have. We also have Bulletin 2300 – Training Yard Installation Manual available for download on our website. We are available to be onsite with your team during installation, start-up, and support.

Q: *Can Timpson provide us with info on the concrete pad/slab requirements?*
A: Timpson cannot provide these requirements as local codes and soil constraints differ from location to location.

Q: *What is the environmental rating of the panel?*
A: All Training Yard systems are constructed to meet Nema 4 (IP66) requirements. However, some environments will require additional consideration from the Timpson engineers. For instance, extreme heat with temperatures over 104°F for more than a week at a time, and extreme cold with risk of ice build-up, must be brought to our attention prior to ordering.

Q: *What is the system capable of energizing in my yard?*
A: The system is capable of energizing the lines, and secondary transformers – without load. Basically, only the excitation current of transformers will be recognized at start-up and allowed to become energized. The system is only capable of outputting 60mA of total line current, as a tertiary means of safety.

PRODUCT SELECTION GUIDE	
A. Quantity of Isolated Circuits	
Code	Descriptor
1-12	Enter Quantity

B. Quantity of Remotes	
Code	Descriptor
1-12	Enter Quantity

C. Environmental Considerations	
Code	Descriptor
Blank	Not Needed
H	Extreme Heat
C	Extreme Cold

*Remotes can be mapped to control multiple circuits.

*Temperatures above 40°C (104°F) for more than one week, or below 0°C (32°F) for more than one week.

D. Circuit Orientation	
Code	Descriptor
U	Underground
A	Aerial
T	Transmission

E. Circuit Voltage (Line to Ground)	
Code	Descriptor
4	4,000
12	12,400
13	13,200
25	25,000
0	Other (Please note)

F. Main to Circuit Feed Cord	
Code	Descriptor
1	100'
2	200'
3	300'