WXLINE

Wxline Isolation Transformer

The Wxline Isolation Transformer provides turn-key implementation of a separately derived power source.

The WxIT allows for installation of a ground electrode on the branch circuit that supplies power to an irrigation control central computer and associated accessories.

The WxIT provides significant hardening of a central computer and related accessories from lightning damage by way of:

- low-pass filtering of commercial power
- fast transient suppression
- a low surge impedance path to a ground electrode
- effective equipotentialization of commercial AC power and field power and / or communication conductors

Wxline Isolation Transformer (WxIT) in Fiberglass Enclosure

The WxIT is a complete electrical subsystem that creates a separate local electrical service at a location remote from the building service entrance. The WxIT is user-friendly and is installed by hard-wire into an existing branch circuit or by way of a flexible power cord plugged into a dedicated wall outlet.

The WxIT includes provision of AC power-in options, multiple output circuits with over-current protection, input AC power surge suppression, and a ground lug. The lug is used for bonding to the ground electrode that is used for irrigation equipment protection and that is not common to the building safety ground.

The WxIT provides 1.5kVA of power to multiple, integral, circuit-breaker protected AC outlets. The WxIT is a fully metal-enclosed isolation-transformer and distribution panel board dedicated to energizing inter-connected critical control systems involving multiple conductors to / from the outside world.

The WxIT delivers:

- Improved reliability of irrigation control computers in a lightning environment
- Fully isolated, separately derived source AC service
- Full compatibility with the ground electrode used for irrigation equipment protection
- Improved power quality and overcurrent protected AC outlets
- Efficient toroid transformer technology with quiet operation
- Ground-fault indicator, AC-in indicator, and protected voltage-out indicator
- Compatibility with UPS systems
- Effective electrical protection for new systems, or retrofit to existing installations
- Compatibility with Wxline Critical Asset Protection Bulkheads

Wxline Isolation Transformer Specifications:

ENCLOSURE: NEMA 4X molded fiberglass with transparent door

SIZE: 24 inches x 20 inches x 8 inches

WEIGHT: 75 lbs

MAINS INPUT: 120 VAC 60 Hz only (on 20 A circuit)

ISOLATED OUTPUT:
- 120 VAC 60 Hz
- 1700 VA maximum (14.2 A) regulation 3.0% typical

MAINS INPUT PROTECTION:

- 120 VAC DITEK surge arrester
- 16 A thermal circuit breaker (Integrated with ON / OFF switch)
- Toroid transformer protected with an internal thermal re-settable fuse

ISOLATED OUTPUT   PROTECTION:

- 120 VAC DITEK surge arrester
- 15 A DIN rail thermal magnetic circuit breaker (main breaker)
- Optional: Up to 4 branch DIN rail circuit breakers (combined current <=15 A)
- Ground fault indicator (illuminates if isolation is lost between mains ground and output ground)

MAINS POWER CONNECTIONS: Standard US 20 A plug (NEMA 5-20P)
     Optional: EMT fitting for direct wire to DIN rail

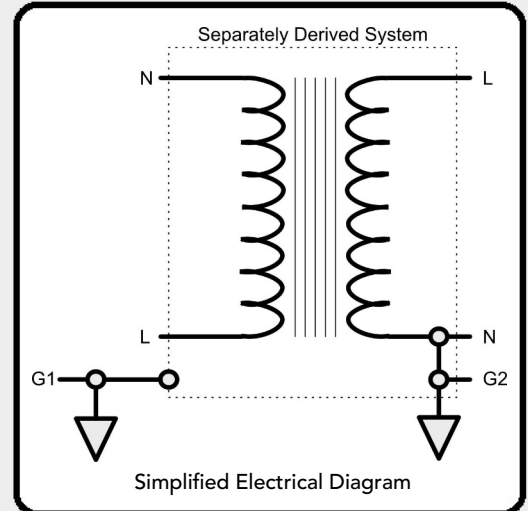ISOLATED POWER OUT CONNECTIONS: Standard US 15 A socket(s) (NEMA 5-15R)
     Optional: EMT fitting for direct wire to isolated DIN rail

GROUND LUG: (isolated from mains) accepts #6 gauge ground conductor or smaller

APPROVALS: Isolation transformer ANSI / AAMI ES60601-1:2005/(R)2012 CSA CAN/CSA-C22.2

NO.60601-1:14 UL Component Mark

The Wxline Isolation Transformer allows for the turn-key implementation of a separately derived system (SDS) for new system installations or for retrofit to existing irrigation system central control computers. This SDS is compatible with a local ground electrode common to field wiring surge suppression devices. Not all isolation transformers are created equal as many on the market do not provide proper ground isolation and full primary / secondary isolation.

Simplified Electrical Diagram