## Dynatec ${ }^{\circledR}$ Controls

## Dynatec ${ }^{\circledR} 2950$ Control

## Dual Channel Overexcite Clutch/Brake Control



## Description

The Dynatec ${ }^{\circledR} 2950$ (D2950) is a solid-state digital Overexcite (OE) clutch/brake controller, designed to operate 90 VDC clutch/ brake (C/B) coils with current loads of up to 1.0 amp ; Din rail mounting for ease of installation.
This controller operates one or two C/B coils with an adjustable anti-overlap circuit and OE.
The D2950 incorporates voltage protection on the AC input. When transient voltage spikes or notching is present on AC lines, an isolation transformer is required to filter the incoming power to the D2950.

## Specifications

Power Input

| Voltage: | 115 VAC |
| :--- | :--- |
| Current: | 1.5 amp |
| Frequency: | $50 / 60 \mathrm{~Hz}$ |
| Fusing: | Customer-supplied 2 amp |

Power Output
Voltage: $\quad 90$ VDC (105 V actual)
Overexcite Pulse: 325 VDC
Current: 1.0 Max.
D2950 Dimensions
Weight: $\quad 17 \mathrm{Oz}$.
Overall: $\quad 3.94^{\prime \prime}$ W. $\times 2.76^{\prime \prime} \mathrm{H} . \times 5.28^{\prime \prime} \mathrm{D}$.
Mounting: Din rail
Temperature
Operating: $\quad 0^{\circ}$ to $65^{\circ} \mathrm{C}\left(32^{\circ}\right.$ to $\left.149^{\circ} \mathrm{F}\right)$

## Features

- Meets 51 Certification
- Adjustable clutch/brake "on" delay Anti-overlap potentiometer 0 to 100 ms
- Status/Diagnostic lights: Clutch On Brake On
- Selective input switching logic Cold contact, 3-30 VDC or 115 VAC
- Outputs (2) 1 amp Max load
- Use with all Dynacorp ${ }^{\circledR} 90 \mathrm{~V}$ products, except $308 \mathrm{HQ}, 310 \mathrm{HQ}$, and 312 HQ models.

| Input Logic | Part No. |
| :--- | :---: |
| $115 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$ | $214277-040-2211$ |
| $3-30 \mathrm{VDC}$ | $214277-040-2212$ |
| Contact Closure | $214277-040-2213$ |

## D2950 Overexcite

Overexcite produces a 270 VDC spike to the clutch or brake. This graph displays RPM curve of clutch brake package with No Overexcite.

The Dynatec ${ }^{\circledR} 2950$ incorporates an Overexcite feature. The results of Overexcite are displayed in the graph. The clutch and brake coils are saturated much faster, allowing for quick positive engagement, producing higher start/stop accuracy, while reducing friction heat.

## D2950 Anti-Overlap

When using conventional controls where the output voltage is switched by a relay contact, overlap occurs when you see the arching across the contacts. This indicates that just for an instant the brake and clutch are both engaged. This graph represents overlap. The effect of this is excessive wear and heat to the clutch/brake system.


Clutch/Brake Shaft RPM Curve using Conventional Control


Clutch/Brake Shaft RPM Curve using Dynacorp® Control with Overexcite


Clutch/Brake Shaft RPM Curve using Conventional Control

Clutch/Brake Shaft RPM Curve using Dynacorp® Control with Anti-Overlap


The Dynatec ${ }^{\circledR} 2950$ incorporates MOV's and an adjustable time delay logic that will prevent the effects of overlap. This graph illustrates the effects of anti-overlap. Notice the difference between the RPM curves. You have a shorter time to speed and time to zero, and the switching is more precise, creating less heat. These controls can actually operate the clutch/brake system at higher cycle rates, with better repeatability and less heat than conventional controls.

## D2950 Wiring Information






Dynacorp® Clutch/Brake Package Wiring


Single Clutch and Brake Wiring

