

## Digital Signal Distance Amplifier (DSDA)

The newest member of the AI-Tek family.

The new AI-TEK DSDA's are designed for use with active sensors and serve to reduce line impedance, allowing cable runs of up to 3000ft. In some cases this represents a 10X improvement over installations not currently using a DSDA.



Line impedance plays a major role in the distance an active sensor signal can be transmitted through cable and wire. Mutual capacitance of 25 Pico-farads/foot or more can exist between conductors. When sufficient resistance from the sensor, cabling and output load is placed in series with that capacitance signal rise times can increase to the point where the sensor can no longer switch. This condition becomes even worse due to higher target speeds that cause output signal frequency rises

Two versions were developed to allow use with either TTL or supply tracking output options. The DSDA will work with any AI-TEK active sensor and many other brands that support these output styles.

Construction is rugged. Each DSDA is potted into a cast aluminum box. Cables enter the box through weather-tight strain relief bushings and allow all cable connections, including shield, to be terminated inside the box.

	EA79880-100 TTL**	EA79880-200 SUPPLY TRACKING
INPUT POWER	8 – 24 VDC	4.5 – 18 VDC
SIGNAL INPUT	2.4 – 18 VDC	3.5 – 18 VDC
OUTPUT SIGNAL: Logic 1	3.5 – 5.5 VDC	4.5 – 18 VDC
Logic 0	0.6 VDC max	0.6 VDC max.
OUTPUT CURRENT	100mA max	100mA max
LOAD IMPEDANCE	240 $\Omega$ min.	240 $\Omega$ min.
OUTPUT CABLE LENGTH	Up to 3000ft* (914 m)	Up to 3000ft* (914 m)

*\*Maximum cable length dependent on wiring practices, cable or wire type and specifications, load specifications, and signal frequency. Keep capacitance, resistance and inductance as low as possible to maximize cable run.*

\*\* For TTL applications using 5V input power use EA79880-200

