Long Description:

Yüksek Hızlı Tren or YHT (English: High-Speed Train) is the high-speed rail service of the Turkish State Railways, currently operating on two lines: Ankara to Istanbul via Eskişehir and Ankara to Konya via Polatlı. YHT is the only high-speed rail service in Turkey, with trains operating at speeds of up to 250 km/h or 300 km/h.

There are a total of 22 (twenty two) high speed rail tunnels on the Ankara to Istanbul line. Most of these tunnels are located near Bilecik and Bozüyük. The length of the tunnels can go up to 4 kilometers. Length of tunnels in meter:

208.37, 341.59, 1278.7, 3825, 1844.62, 4082.1, 540.5, 785.4, 863, 4108.4, 238.3, 1305.4, 1707.9, 1707.9, 2630, 269.15, 569.08, 666.6, 482.1, 2822.6, 3304.1

Every tunnel has DALI lighting fixtures (EAE) on DALI busbar system (EAE). DALI lines are connected to LCP (Lighting Distribution Panel) which includes EAE KNX Dali Gateways and EAE IP Routers. However, every LCP also includes a Fibre Optic Network Switch. In this way, all LCPs directly connected to TCP / IP. Thanks to KNX Ip routers and network switches (Fibre Optic technology), having all information to central server computer of project is possible.

How do we control lightings inside the tunnels?

Projects is designed to control via NetX BMS Server Software and NetX Voyager Visualization Software. Beside of manual operation, every tunnel has sensors on both sides of tunnel. These sensors are giving dry contact information to EAE KNX Universal Interface devices. (binary input) By using a special algorithm we are able to understand whether the train is inside of the tunnel or not. These tunnels has two bidirectional lines inside. That's why is not that easy to catch trains movement and filter useful information. All fixtures light up when train is about to enter tunnel. If train stays inside, lights will not be turned off. If train leaves to tunnel, it will be detected by sensor and finally lights will be turned off.

What information do we get from tunnel lightings?

   - Brightness status of every Dali lighting group

   - Fault of gateway supply

   - Fault mains connected (short circuit fault and over voltage (40 V DC) for DALI line)

   - Faulty driver information

   - Faulty lamp information

   - Driver offline information

   - Faulty emergency lighting

   - Functional test reports for emergency lighting

   - Battery duration test reports for emergency lighting

Short Description

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