IDIS SYNAPSES®

id-IXL SIL4 INTERLOCKING SYSTEM

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id-IXL Interlocking System was developed by YM IDIS Engineering as a next-generation multi-purpose SIL4 certified signaling technology developed to cover primary and secondary lines, tram lines, light rail, depot, marshalling yard and level crossing applications. id-IXL is certified at the highest safety integrity level according to CENELEC standards EN50126, EN5018 and EN50129.

id-IXL has advance system integration and configuration capabilities to integrate field objects from a wide range of suppliers (e.g., LED signals, point machines, derailers, track circuits, axle counters, level crossings) automatic train protection systems (e.g., ETCS L1, Automatic Train Stop), Centralized Traffic Control/ and other signaling and support systems to deliver agile, flexible and fit-for-purpose complete signaling solutions.

DIFFERENT APPLICATIONS SAME id-IXL TECHNOLOGY

•Primary and Secondary Line Applications at SIL4
•Tram Applications at SIL4 and SIL3
•Cost-effective Depot and Marshalling Yard Applications at SIL2, SIL3 and SIL4
•Centralized, decentralized and stand-alone Level Crossing Applications at SIL4

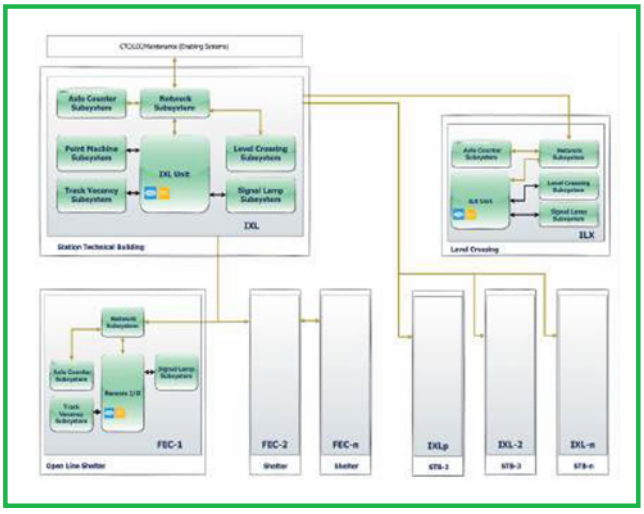
(interlocking ÇAMLIK)

(signals and level crossing at the background – ÇAMLIK)

MAIN FEATURES

id-IXL is a HIMA PLC products-based fail-safe interlocking system which controls and monitors the wayside equipment and train movements. It grants safe and reliable traffic management. The system ensures reliability, availability, maintainability, and safety based on
•Highest safety level, SIL (Safety Integrity Level) 4 product certification according to CENELEC standards EN 50126, EN 50128 and EN 50129.
•Hot-standby, two-out-of-two (2oo2) architecture
•Advance integration capabilities with external systems and field devices
•Support for several I/O and communication interfaces such as Safe Ethernet protocol that fulfills the standard EN 50129 SIL4 and guarantees a reliable data transmission and protocols based on TCP/IP.
•Open technology COTS system components to maximize the supplier independence, proven in safety related applications and reduction of lifecycle costs around 35%
•Modular and flexible interlocking software design with adaptable and extendable function blocks for different signaling principles
•Compatibility with European Train Control System (ETCS) Level 1
•Rapid extension, revision, maintenance, restore, rehabilitation and similar operational demands

id-IXL SYSTEM COMPONENTS



YM IDIS LEVEL CROSSING SYSTEM

id-IXL Level Crossing System is a HIMA PLC products-based fail-safe system which was developed by YM IDIS. id-IXL technology supports control level crossings in centralized, decentralized, and stand-alone architectures distributed in various locations. Thus, it provides the appropriate architecture for each environment and project. System could be delivered as:
•Station Level Crossing System which is a centralized component of the main interlocking for station areas,
•Decentralized Level Crossing System loosely or tightly integrated with the main interlocking system
•Stand-alone Level Crossing System where interfacing with the main interlocking is not required or where the line is not signaled.

id-IXL REFERENCE PROJECTS

•Tram station application of Metro Istanbul's T4 line.
•Çamlık station area, an approximately 20 kms of TCDD (Republic of Turkish State Railways) 3rd region line.
•Bursa T2 Tram Line in Turkey for 11 Stations and a Depot area controlled by 3 interlocking zones.
•Tanzania DSM (Dar es Salaam – Morogoro) Workshop Area Control Systems
•Alayunt-Afyon-Konya Project, an approximately 390 kms ETCS L1 application with 29 interlocking zones and 40+ pieces of decentralized level crossing units through 2023 and 2025
•Bursa Karaman-Emek-Şehir Hastanesi Metro Line in Turkey for 11 Stations controlled by 2 interlocking zones with ATP.

CONNECTIVITY AND OBJECT CONTROLLERS

The technology that provides SIL4 level connectivity with wayside objects of various makes and brands of, signal LEDs, point machines, track circuits/axle counters and level crossing), ETCS L1 and other interlockings on the network.
•In house developed SCP id-IXL Driving and Proving Modules for Signal LEDs

•Point Machine Subsystem

RELIABLE COMMUNICATION NETWORK

id-IXL can communicate with other systems through several interfaces. The communications could be based on protocols such as Safe Ethernet protocol that fulfills the standard EN 50129 SIL4 and guarantees a reliable data transmission and protocols based on TCP/IP.

Network structure could consist of:

•Fiber optic cabling and ring topology providing closed loop redundant network infrastructure
•IP MPLS/SDH

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