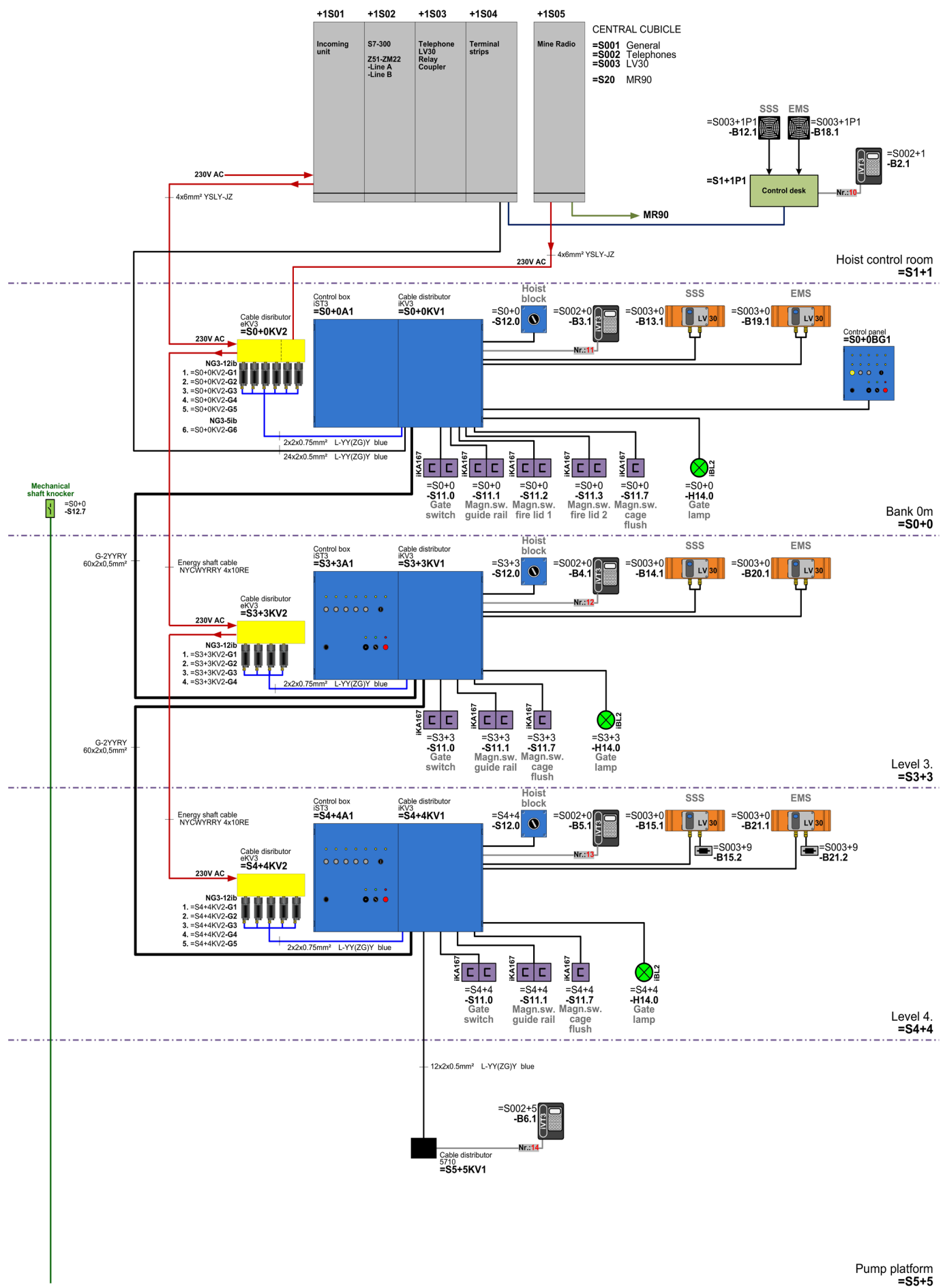


# Safe shaft signalling system





### Features:

- Fully integrated signalling (Data/Speech), telephone, shaft radio, CCTV and safety circuit system
- Emergency stop and interlock system with safety coupler (SIL 3) as a redundant system
- Up to two copper cables running down the shaft and used to supply equipment on individual levels
- Hybrid fiber optic cables as an alternative solution
- Independent power supply for the telephone and loudspeaker system (battery backup)
- Fully programmable main plc and scada system
- Robust level boxes out of 3mm stainless steel
- Data communication up to 12/Mbits (Profibus), or 100/Mbits (TCPIP)

### Benefit:

- High safety level through redundant (two channelled) system
- Stand alone safety circuit according to SIL 3
- UPS function of the telephone and loudspeaker system, in case of mains power shut down
- Programmable to customer needs and local requirements
- Easy to install and commission due to fully pre-tested systems/sub systems
- Easy fault detection due to monitored modules and visualisation in the scada system
- Easy integration into third party system
- Analogue data transmission from the cage/Skip via wireless data communication
- Intrinsically safe explosion protection (I MI Ex Ia I Ma/ I M2 Ex Ib I Mb)
- Rope force measurement / Slag rope monitoring
- Engineering, construction, factory installation, onsite installation and commissioning from one supplier
- After sales service from local subsidiary
- Fault diagnostic via VPN remote access

### References:

#### Main shaft signalling system for men, material transport

SSS, Mine radio, wagon loading system,  
Prosper Haniel Shaft 10, 1250m (Germany)

#### Double skip system for men, material transport

SSS, Mine radio, Skip loading system, CCTV,  
Ural Kali SKRU 3, 600m (Russia)

#### Shaft signalling system for shaft sinking hoist

SSS, Mine radio, CCTV, water pumping, wireless communication for the loading gripper  
Thyssen Schachtbau, Norilsk Nickel, 2050m (Russia)

**Over 150 installed systems all over the world**



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