

CBTC Signalling System

Beijing MTR

ACS2000 with IMC and RSR180

Country

China

Segment

Urban & Mass Transit

Application

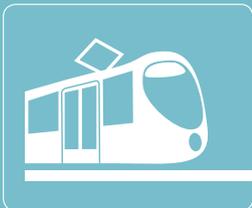
Fallback system for
CBTC

Project start

2009



CASE STUDY | EN



Requirement

In 2009, Signalling Integrators CASCO, HollySys and CRSC Metro were respectively awarded contracts to supply efficient and reliable signalling system to Yizhuang Line, Changping Line (suburban lines) and Beijing Line 8 (urban line). CBTC signalling systems were used on all lines with SIL4 certified axle counters mandated as back up. As of August 2012, approximately 80km had been opened.

Solution

For all projects, the ACS2000 with IMC and RSR180 was chosen by the three signalling operators and a total of 441 wheel sensors across 355 counting sections were supplied and installed both efficiently and well within the project timescales.

Benefit

Due to specific requirements of these projects, during the first opening year, the signalling systems were operated under the full protection of the ACS2000 axle counter and interlocking system only rather than using the CBTC. The ACS2000 fully met the operating requirements set by both the integrators and the operators, providing sound and reliable performance at all times, guaranteeing the smooth operation of the three lines for the Metro owners.

CBTC Signalling System Beijing MTR ACS2000 with IMC and RSR180



Project details

After several years of market development and technical feasibility research, Frauscher was awarded contracts for delivering axle counters to Yizhuang Line, Changping Line and Beijing Line 8. As Beijing metro is one of the busiest networks in the world, strict line operation requirements of 2-3 minutes interval for urban line and 5-6 minutes interval for suburban line requires a high level of stability, reliability and performance from the entire signalling system. CBTC is the developing trend of future signalling systems with axle counters acting as back up for improving the safety and availability of the whole signalling system.

A wide range of rail claws satisfy the multiple rail track requirements on the network, such as slab and ballasted track. Easy and fast mounting of rail claw allows the installers to greatly shorten the timescale of project construction. The modular design of the ACS2000 offers clients the highest flexibility in daily operation, for example, simple, fast efficient reset process significantly reduces the Mean time to repair (MTTR).

For Changping and Yizhuang Lines, ACS2000 axle counters were integrated into the Alstom ilock® system with relay contact interface. On Beijing Line 8, ACS2000 axle counters were integrated into CRSC Metro's DS6-60 interlocking system with relay contact interface.

After 2-years of operation, outstanding stability and reliable performance of the ACS2000 on the three lines has provided the integrators and owners a high level of confidence and satisfaction in Frauschers systems. The ACS2000 has fully met all of the strict challenges of the project conditions.

Operator	Beijing MTR
Client	Beijing Line 8: CRSC Metro and CRSC Yizhuang Line: CASCO and CRSC Changping Line: HollSys and CRSC
Scope of Supply	Trial, Components, Installation and Commissioning
Scope of Project	355 track sections, 456 counting heads
Axle Counting System	ACS2000 with IMC
Wheel Sensor	RSR180