इरिसेट
गाड़ी डिटेक्शन प्रयोगशाला
प्रयोग **सं : टी डी एल - 22**

IRISET
TRAIN DETECTION LABORATORY
EXPERIMENT NO : TDL – 22

नाम
Name : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुक्रमांक
Roll No : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

पाठ्यक्रम
Course : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

दिनांक
Date : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

प्राप्तांक
Marks Awarded :

अनुदेशक के आद्यक्षर
Instructor Initial :

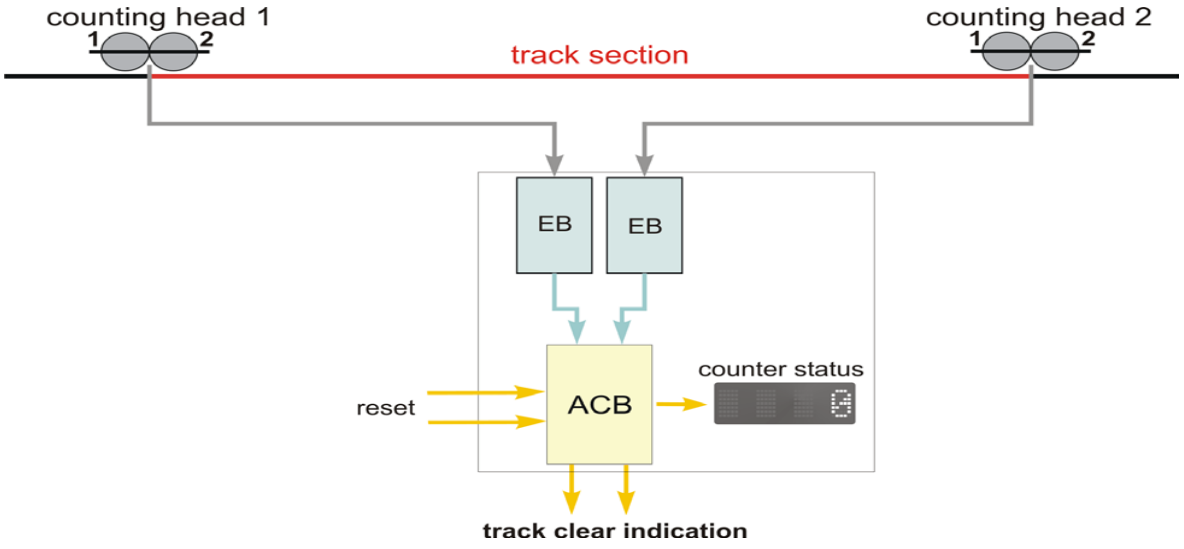
DIGITAL AXLE COUNTER (ACS2000) – FRAUSCHER

(RDSO / SPN / 176 / 2013)

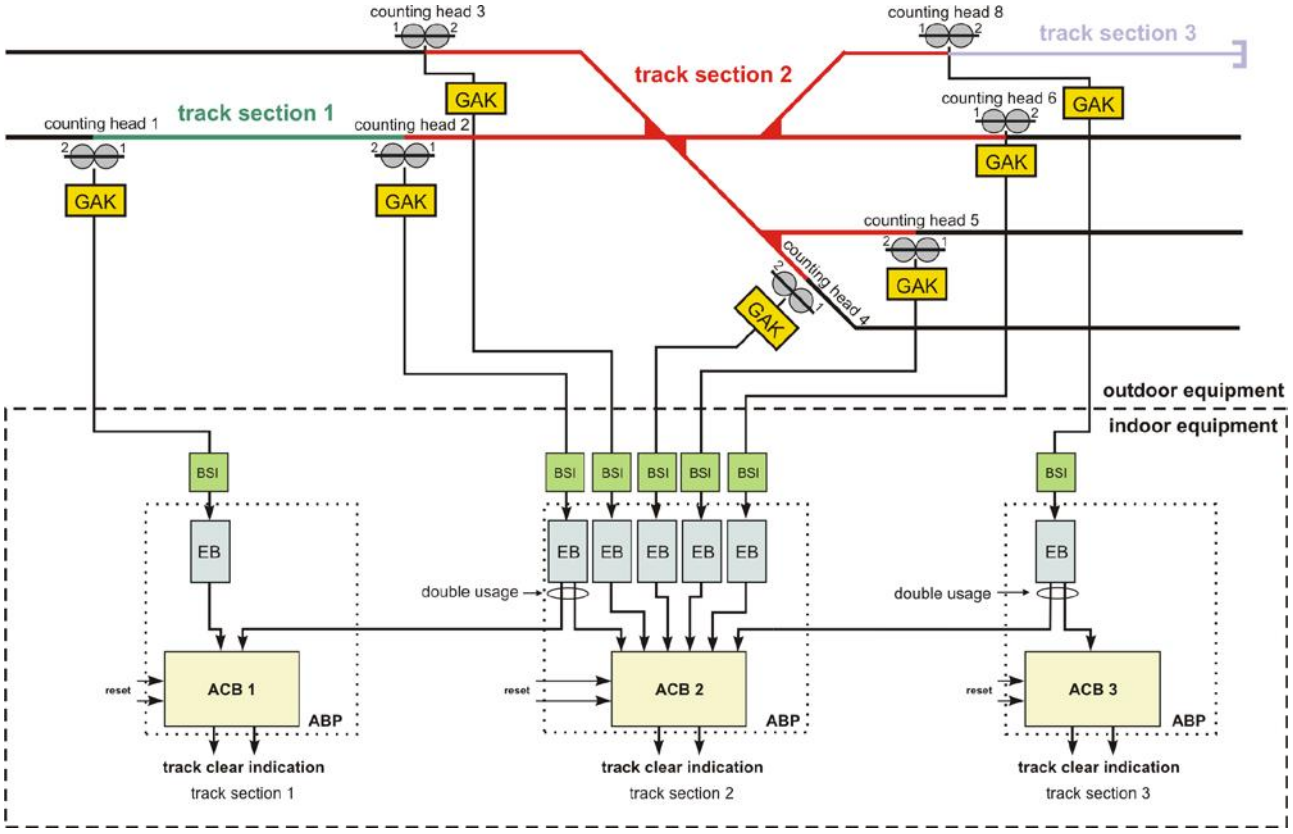
I. **Purpose:**

1. Identification of Sub-systems / Boards (Outdoor & Indoor Equipment)
2. Study of Indications on Sub-systems/ Boards
3. Study of DAC (ACS 2000) – FRAUSCHER Configuration
4. Study of Resetting
5. Downloading of Errors & Events
6. Maintenance Log Sheet
7. Study of RSR-180

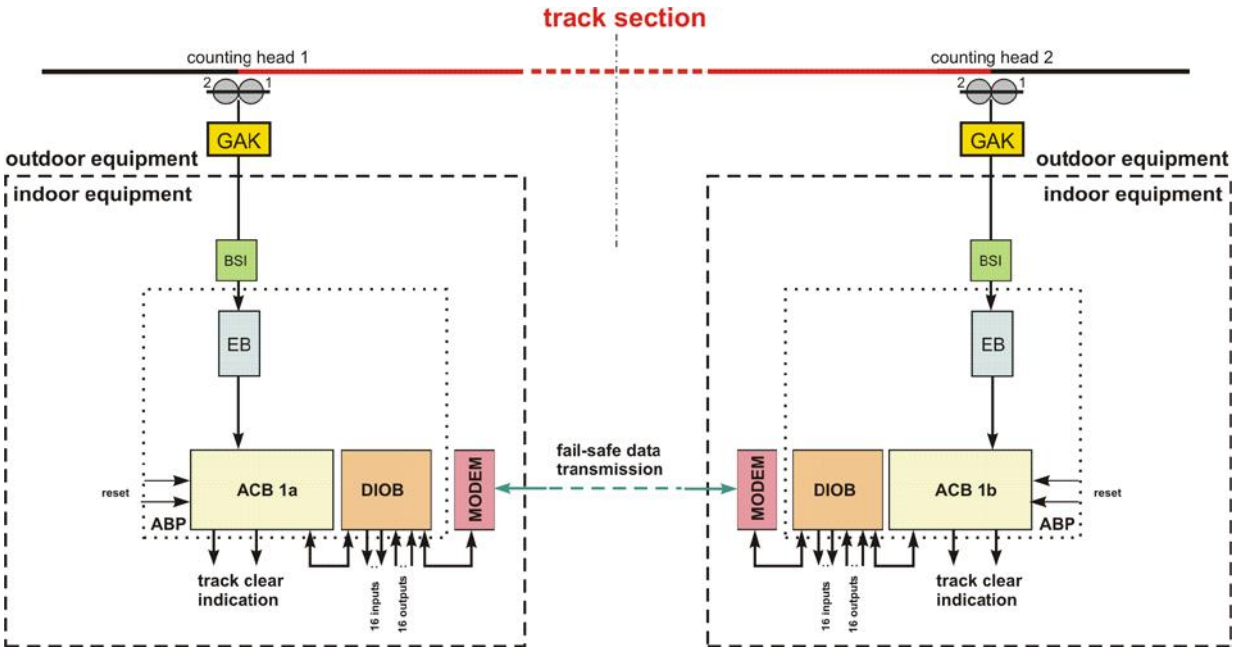
II. Typical block diagram of ACS2000(Isolated mode)



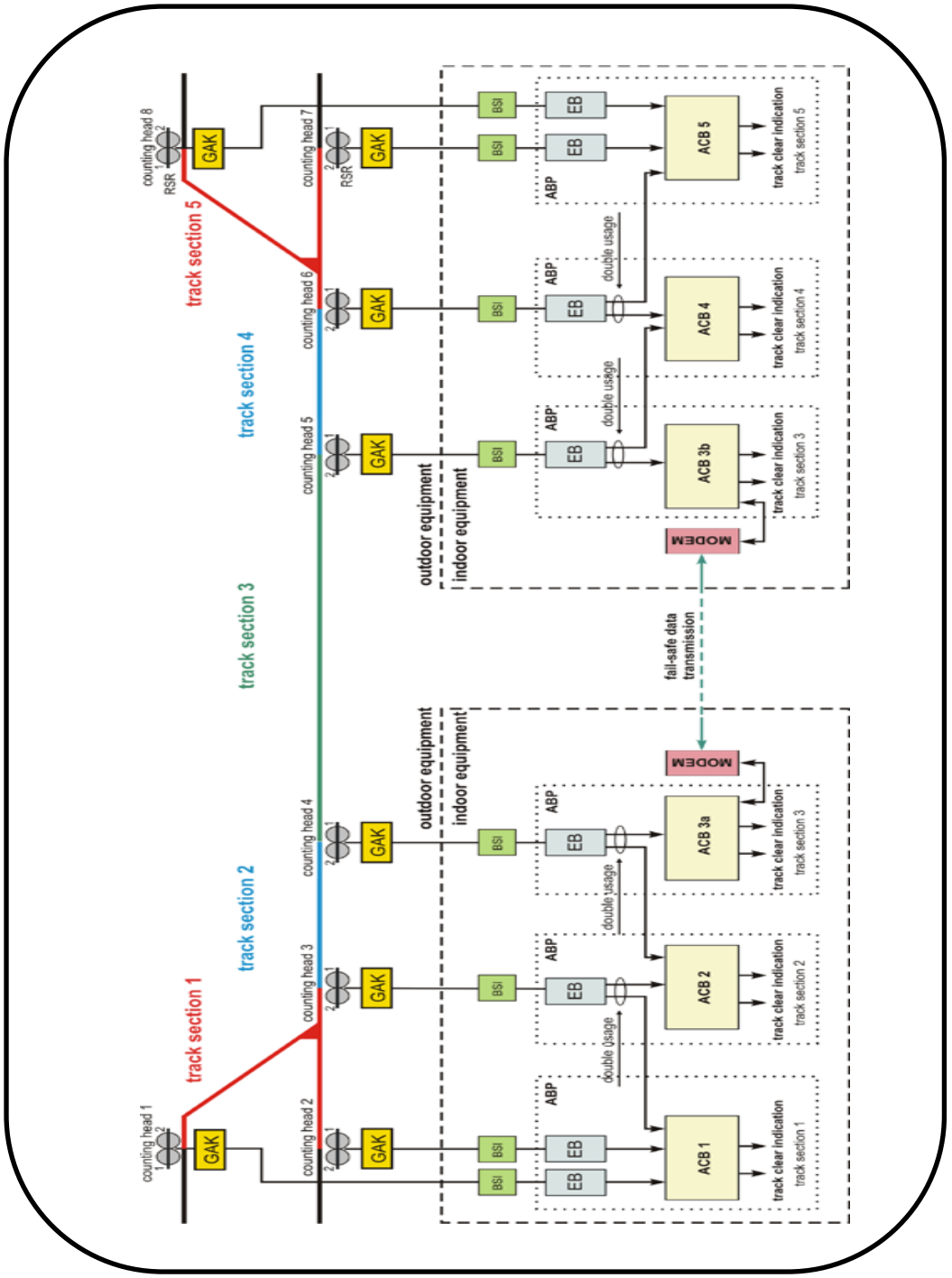
III.Block diagrams for the different configurations



1. Block diagram in isolated mode operation for Multi section (3 Track sections)



2. Block diagram in transmission mode operation using Modem with DIOB



3.

3. Block diagram in transmission mode operation using Modem without DIOB

IV. Evaluation board IMC

Description of the front panel elements

Figure 2.1:
Front panel of the evaluation board IMC

Display when illuminated/operating elements whilst actuated:

Serial Interface .....serial interface
IMC GS01: not in use;
IMC GS03: Diagnostic connection

PWR.....supply voltage channel 1 present

Sys1 .....system 1 occupied (illuminated) or faulty (flashes)

A1.....output direction 1 [1]

B1.....output system 1 [1]

Adjust .....required for IMC adjustment

Test .....required to adjust IMC/simulate an occupancy of system 1

V+, GND.....2 mm test sockets, voltage corresponds to the analogue wheel sensor current via a 100 Ω shunt

PWR.....supply voltage channel 2 present

Sys2 .....system 2 occupied (illuminated) or faulty (flashes)

A2.....output direction 2 [1]

B2.....output system 2 [1]

Adjust .....required for IMC adjustment

Test .....required to adjust IMC/simulate an occupancy of system 2

V+, GND.....2 mm test sockets, voltage corresponds to the analogue wheel sensor current via a 100 Ω shunt

Type key:

nnn .....board identification code beginning with 001

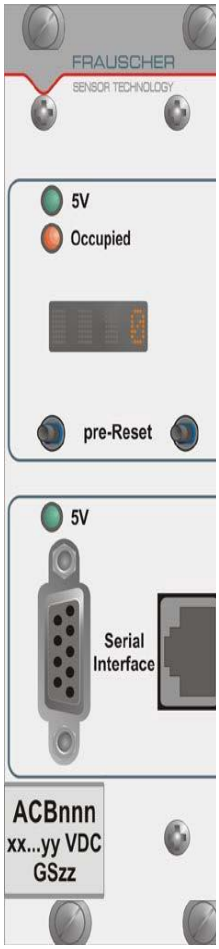
xx..yy .....operating voltage range

zz .....version beginning with 01

V. Axle counting board ACB

Description of the front panel elements

Displays when illuminated/operating elements whilst actuated:



Front panel of the axle
Counting board ACB

5 V..... voltage supply channel 1 present

Occupied..... track section occupied (LED illuminated)/faulty (LED flashes)

Display..... number of axles / information on status (error)

Pre-Reset..... elimination of the reset restriction (actuated: causes the same function as HIGH Level at the "pre-Reset" inputs)[2]

5 V..... voltage supply channel 2 present

Serial Interface..... D-SUB socket / RJ45 socket[2]

Type key:

nnn..... board identification code beginning with 001
xx...yy..... operating voltage range
zz .....version beginning with 01

VI. **Fuse board SIC**

The fuse board SIC is used to protect the supply voltage for the ACS2000.

Description of the front panel elements

Front panel of the fuse board SIC

Si1..... fuse for the supply voltage of channel 1

Si2..... fuse for the supply voltage of channel 2

Type key:

nnn..... board identification code beginning with 001 xx...yy..... operating voltage range
zz.....version beginning with 01

VII. **Assignment**:

1. Draw the Block Diagram of Frauscher ACS2000 as in TD LAB (5dps-4track sections).

2. What are the different modes of operation in ACS2000.

3. Identify the cable used between track side connection box GAK to the termination rack (KA) of ACS and write the details of the connections.

4. Where are the address/configuration settings provided.

5. Measure the currents of sys1 and sys2 of EB(IMC) with & without wheel (range of current 2.8ma to 5ma without wheel)

S. No	Description	Terminals	Tolerance Range	Actual Readings
1	Power Supply Input V AC	● **L** ● **N** **PSU**	100-240 V AC	230 V AC
2	Power Supply Output/ V DC	● **+24** ● **- 24** **PSU**		
2	System -1 R=100 Ω (Current I = V /100)	● **V+** ● **GND** **IMC Board**	2.8 mA to 5 mA (280 mV to 500 mV)	
3	System -2 R=100 Ω (Current I = V /100)	● **V+** ● **GND** **IMC Board**	2.8 mA to 5 mA (280 mV to 500 mV)	

Date: **Signature of the Trainee**