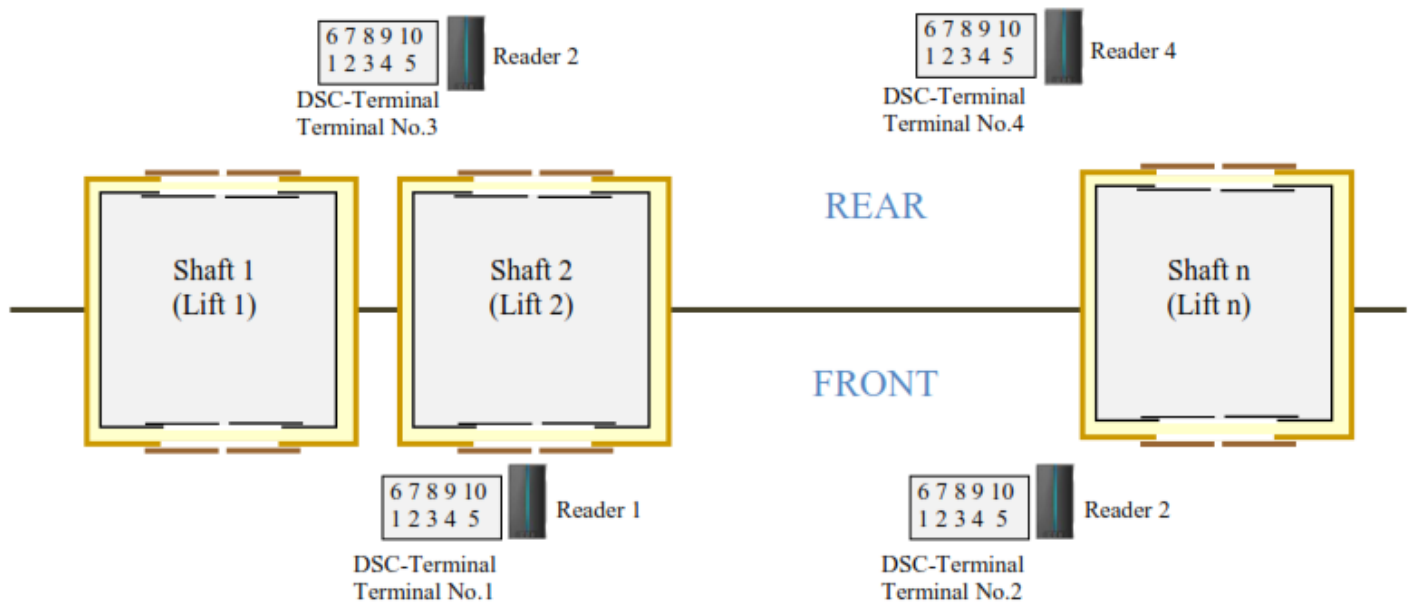# Sensor - THYSSEN Integration: System Description

The "IC—Thyssen" firmware installed in the Sensor controllers, and the GuardPointPro application on the server allows controlling a Thyssen Lift Controller System (LCS).

1. System Architecture

At each floor, the system architecture is as follows:

One controller is installed at each floor, which can manage the readers of the floor, and all the controllers are connected to their RS485 Port 2. The RS485 bus is connected to the Thyssen LCS via a RS485/RS232 convertor.

2. System operation

When a cardholder is granted access at a reader near a DSC-Terminal, the controller sends to the Thyssen LCS, via the TKAW protocol, the message (ID36h) corresponding to the floor(s) the cardholder is able to reach (defined from the GuardPointPro platform) and from which DSC-Terminal (front or rear) the card has been passed.

3. System programming

For the Sensor Access Control system, each reader must get the following parameters:

Data1= Terminal number to which the reader is attributed (01-255)

Data2 = Shaft number (1-63)

Data 3 (Flag): True if the DSC-Terminal is at the rear.

(From the GuardPointPro Application, these data are set at the "Controller/Reader/Miscellaneous" screen in the following fields:

 "Default Transaction code" field = Data2 (Shaft number)

 "Misc F1" field = Data1 (Terminal number to which the reader is attributed)

 "Misc 4" check box: Data3 (Not selected/Selected if DSC-Terminal at the front/rear).

4. Communication process

The communication parameters are as follows: 9600Bd, 1 Start bit, 8 bits data, 1 stop bit, no parity

When a user is granted access at a reader:

1- The Sensor controller sends the following message to the Thyssen LCS:

 - If the permission floors include up to 32 floors, Mess Id30h is sent:

   02 28h 20h 30h Data1 Data2+Data3 01h 00h dd $_{8-1}$ dd $_{16-9}$ dd $_{24-17}$ dd BCC 03h $_{32-25}$

 - If the permission floors include up to 64 floors, Mess Id36h is sent:

   02 30h 20h 36h Data1 Data2+Data3 01h 00h …

   … dd $_{8-1}$ dd $_{16-9}$ dd $_{24-17}$ dd $_{32-25}$ dd $_{40-33}$ dd $_{48-41}$ dd $_{56-49}$ dd $_{64-57}$ dd $_{72-65}$ dd $_{80-73}$ dd BCC 03h $_{88-81}$ dd $_{96-89}$

Where:

Data1 = Terminal number attributed to the reader

Data2 = Shaft number

Data3 = 40h or 80h if the reader if in front or rear

Dd $_{8-1}$ = Permission byte for floor 1-8 (bit 0 set: floor 1 authorized .. bit 7 set: floor 8 authorized)

Dd $_{16-9}$ = Permission byte for floor 9-16 (bit 0 set: floor 9 authorized .. bit 7 set: floor 16 authorized)

:

:

$_{96-89}$ = Permission byte for floor 89-96 (bit 0 set: floor 89 authorized .. bit 7 set: floor 96 authorized)

BCC = XOR of all the bytes from the second one (30h)

Examples:

If a cardholder is access granted at a front reader linked to DSC-Terminal No.1 and shaft 2, and can access to floors 1,2,8 and 10, the message will be:

02 28h 20h 30h 01 42h 01h 00h 83h 02 00 00 FB 03

If a cardholder is access granted at a rear reader linked to DSC-Terminal No.2 and shaft 3, and can access to floors 1,2,8,10 and 33, the message will be:

02 30h 20h 36h 02 83h 01h 00h 83h 02 00 00 01 00 00 00 00 00 00 00 26 03

2- If the command is correctly received by the LCS, the LCS answers with the ACK and ENQ bytes '06 05'

3- The Sensor controller then sends the 'granted' message to GuardPointPro.

If the Sensor controller does not receive the ACK/ENQ bytes from LCS within 400ms, it will send the command again.

If this process failed after 3 times repeat, GuardPointPro display the message:

nn dd/mm/yy hh:mn:ss Satellite alarm 'STLO 100'   - Polling error   From controller 'Controller_name'

and the cardholder will be denied for 'Lock' reason.

When the LCS will answer back correctly, GuardPointPro display the message:

nn dd/mm/yy hh:mn:ss Satellite alarm 'STLO 100' - Com OK From controller ' Controller_name '