

1.	☐	ΕΓΚΡΙΝΕΤΑΙ. Εργασίες μπορούν να εκτελεσθούν. <i>APPROVED. Works may proceed.</i>
2.	☐	ΑΝΑΘΕΩΡΗΣΗ ΚΑΙ ΕΠΑΝΥΠΟΒΟΛΗ. Δεν μπορούν να εκτελεσθούν εργασίες. <i>REVISE AND RESUBMIT. Works should not proceed.</i>
3.	☐	ΔΕΝ ΑΠΑΙΤΕΙΤΑΙ ΕΛΕΓΧΟΣ. Εργασίες μπορούν να εκτελεσθούν. <i>REVIEW NOT REQUIRED. Works may proceed.</i>

ΑΔΕΙΑ ΕΦΑΡΜΟΓΗΣ ΣΧΕΔΙΟΥ ΔΕΝ ΑΠΑΛΛΑΣΣΕΙ ΤΟΝ ΑΝΑΔΟΧΟ ΑΠΟ ΤΙΣ ΕΥΘΥΝΕΣ ΤΟΥ ΠΟΥ ΑΠΟΡΡΕΟΥΝ ΑΠΟ ΤΗ ΣΥΜΒΑΣΗ ΟΥΤΕ ΑΠΟΤΕΛΕΙ ΑΠΟΔΟΧΗ ΤΗΣ ΕΠΑΡΚΕΙΑΣ ΚΑΙ ΑΚΡΙΒΕΙΑΣ ΤΗΣ ΜΕΛΕΤΗΣ.
PERMISSION TO PROCEED DOES NOT RELIEVE CONTRACTOR FROM HIS RESPONSIBILITIES IMPOSED BY CONTRACT NEITHER DOES IT CONSTITUTE ACCEPTANCE OF THE ADEQUACY AND EXACTNESS OF THE DESIGN.

ΤΕΧΝΙΚΟΣ ΕΛΕΓΧΟΣ ΑΠΟ: TECHNICAL REVIEW BY:	ΕΓΚΡΙΘΗΚΕ ΑΠΟ: APPROVED BY:
ΥΠΟΓΡΑΦΗ: SIGNED:	ΥΠΟΓΡΑΦΗ: SIGNED:
ΗΜΕΡΟΜΗΝΙΑ: DATE:	ΗΜΕΡΟΜΗΝΙΑ: DATE:

F								
E								
D								
C								
B								
A	31.03.17	IFU	IFU	G. Galluzzi	<i>g.g.</i>	G.Valavanis		DFD stage – First issue.
ΑΝΑΘ. REV.	ΗΜ/ΝΙΑ DATE	ΣΥΝΤ. INIT.	ΕΛΕΓΧ. CHK.	ΟΝΟΜΑ/Ν.Α.ΜΕ	ΥΠΟΓΡ./SIGN.	ΟΝΟΜΑ/Ν.Α.ΜΕ	ΥΠΟΓΡ./SIGN	ΠΕΡΙΓΡΑΦΗ / DESCRIPTION
				ΕΓΚΡΙΘΗΚΕ / APPROVED		ΕΠΙΚΥΡΩΘΗΚΕ / AUTHORIZED		

ΜΕΤΡΟ ΘΕΣΣΑΛΟΝΙΚΗΣ THESSALONIKI METRO  ΑΤΤΙΚΟ ΜΕΤΡΟ Α.Ε.	ΜΕΤΡΟ ΘΕΣΣΑΛΟΝΙΚΗΣ «ΝΕΟΣ ΣΙΔΗΡΟΔΡΟΜΙΚΟΣ ΣΤΑΘΜΟΣ – ΣΤΑΘΜΟΣ Ν. ΕΛΒΕΤΙΑ ΚΑΙ ΑΜΑΞΟΣΤΑΣΙΟ ΠΥΛΑΙΑΣ» THESSALONIKI METRO “NEW RAILWAY STATION – N. ELVETIA STATION AND PILEAS DEPOT” ΕΡΓΟ / PROJECT: CON-06/004 ΜΕΛΕΤΗ, ΚΑΤΑΣΚΕΥΗ ΚΑΙ ΘΕΣΗ ΣΕ ΛΕΙΤΟΥΡΓΙΑ ΤΟΥ ΜΕΤΡΟ ΘΕΣΣΑΛΟΝΙΚΗΣ DESIGN, CONSTRUCTION AND COMMISSIONING OF THESSALONIKI METRO
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ΝΟΜΙΜΟΙ ΕΚΠΡΟΣΩΠΟΙ / AUTHORIZED SIGNATORIES ΓΙΑ ΧΡΗΣΗ ΣΕ ΤΕΧΝΙΚΑ ΕΓΓΡΑΦΑ ΜΟΝΟ FOR TECHNICAL DOCUMENTS ONLY	ΑΝΑΔΟΧΟΣ – ΕΚΔΙΔΟΥΣΑ ΕΤΑΙΡΕΙΑ ΕΓΓΡΑΦΟΥ CONTRACTOR – DOCUMENT ISSUING COMPANY  Κοινοπραξία ΜΕΤΡΟ ΘΕΣΣΑΛΟΝΙΚΗΣ ΕΡΓΟ: CON - 06 / 004 ΜΕΛΕΤΗΤΙΚΟ ΓΡΑΦΕΙΟ / DESIGN OFFICE
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ΤΙΤΛΟΣ / TITLE CBACS (Central Building Automation Control System) Safe DFD – System Architecture Block Diagrams		
ΑΝΑΦΟΡΑ ΑΝΑΔΟΧΟΥ / CONTRACTOR'S REFERENCE 	ΓΛΩΣΣΑ / LANGUAGE EN	ΑΡΙΘΜΟΣ ΕΓΓΡΑΦΟΥ – ΣΧΕΔΙΟΥ / DOCUMENT – DRAWING NUMBER 1 G 0 0 P S 2 5 8 C 7 0 2 A
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ΦΥΛΛΟ ΤΡΟΠΟΠΟΙΗΣΕΩΝ / MODIFICATION SHEET

[illegible]

Κοινωπραξία ΜΕΤΡΟ ΘΕΣΣΑΛΟΝΙΚΗΣ
ΕΠΓΟ: CON - 06 / 004

Ansaldo STS DOCUMENT ISSUE

Date	31.03.17
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	Name and Surname	Designation
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Verifier/CHK	I. Fulgieri	SCADA WPL
Approver	G. Galluzzi	SCADA&PC Manager
Validator/RAMS	N/A	N/A
Authorizer	G. Valavanis	Project Engineer

Supplier DOCUMENT ISSUE

Date	31.03.17
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	Name and Surname	Designation
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Verifier	C. D'Apice	Project Engineer
Approver	G. Rizzi	Project Manager

TRACEABILITY OF THE REVISIONS

Rev.	Ext. Rev.	Date	CO	CO Date	Author	Verifier	Approver	Validator/ RAMS	Authorizer	Revision Description
00.00	A	31.03.17	--	--	I.Fulgieri	I.Fulgieri	G.Galluzzi	N/A	G. Valavanis	DFD Stage - First Issue

A	31.03.17	1G00PS258C702A_EN.doc	CBACS (Central Building Automation Control System) Safe	1G00PS258C702
Αναθ.- Rev.	Ημ/νια- Date	Αρχείο-Filename	DFD – System Architecture Block Diagrams	Σελίδα-Page 3 / 20


Item Title

CBACS (Central Building Automation Control System) Safe DFD – System Architecture Block Diagrams

Item Code
1G00PS258C702
History of Revisions:

3						
2						
1	31.03.17	A. Salvati	C. D'Apice	G. Rizzi	I. Fulgieri	DFD stage – First issue.
ΑΝΑΘ. REV.	ΗΜ/ΝΙΑ DATE	ΣΥΝΤ. INIT.	ΕΛΕΓΧ. CHK.	ΕΓΚΡΙΘΗΚΕ APPROVED	Πελάτης ΕΛΕΓΧ. Customer CHK.	ΠΕΡΙΓΡΑΦΗ DESCRIPTION

Communications and Open Issues:

1						
ΑΝΑΘ. REV.	ΚΩΔΙΚΟΣ CODE	ΑΠΟΣΤ. SENDER	ΠΑΡΑΛ. RECEIVER	ΠΕΡΙΓΡΑΦΗ DESCRIPTION	ΑΠΟΚΡΙΣΗ RESPONSE	ΚΑΤΑΣ. STATE

TOMEAS A
Ελληνική Γλώσσα

SECTION B
English Language

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1 Introduction

1.1 Context Description

This document is relevant to the Central Building Automation Control System (CBACS) Safe of Thessaloniki Metro Project.

The CBACS Safe is the safety-related HMI layer of the Building Automation Control System (BACS); thus, it does not include BACS' Field layer.

The CBACS Safe allows monitoring and, where applicable, command building automation equipment, involved in safety functions, located in the stations, tunnels and along the railway.

The building automation equipment involved in safety functions can be grouped in the two below listed types:

- Fire detection (**FD**);
- Emergency ventilation (**EV**) – exhaust fans, over-track exhaust fans, supply air fans, blast shaft fans, jet fans.

1.2 Scope of the Document

The scope of this document is to describe the relevant architecture block diagrams, then:

- Location where the HW components are installed and operate;
- Power supply and network connecting cables' quantity and type for each HW components.

1.3 Reference Documents

1.3.1 Input Documents

Table 1-1 – Input Documents

Item #	Code	Title	Date	Rev #
ID.01	1G00PS250G105	CBACS. DFD Technical Specification.		B
ID.02	1G00PS250K111	CBACS. DFD Bill of Materials.		B
ID.03	1G00PS258G105	CBACS Safe. DFD Technical Specification.		A
ID.04	1G00PS258K111	CBACS Safe. DFD Bill of Materials.		A
ID.05	05-724-TRA4-H1	CBACS Review of DFD Specifications		A
ID.06	05-724-TRA4-H2	CBACS Review of Safety Analysis and Verification Report		A

1.3.2 Applicable Documents

Table 1-2 – Applicable Documents

Item #	Code	Title	Date	Rev #
AD.01	1G00PS258G211	CBACS Safe DFD Components Datasheets.		A
AD.02	1G00PS258C112	CBACS Safe. DFD OCC PLC Box Electrical Schemes and Diagrams.		A
AD.03	1G00PS258C113	CBACS Safe. DFD SMR PLC Box Electrical Schemes and Diagrams.		A
AD.04	1G00PS258C114	CBACS Safe. DFD ECR PLC Box Electrical Schemes and Diagrams.		A

1.3.3 Previous Stage Document

This paragraph defines if this document has been already issued in previous project's stages GFD1 or GFD2. If yes, the revision 'A' of this document takes as input the previous stage document, in the last issued revision, and relevant open issues.

Table 1-3 – Previous Stage Document

Item #	Code	Title	Date	Rev #
PD	None	None		

1.3.4 Literature Documents

Table 1-4 – Literature Documents

Item #	Code	Title	Date	Rev #
LD.01	None.	None.	None.	None.

1.3.5 Customer's Design Review Documents

First issue of this document, then no Customer's design review document referred.

Table 1-5 – Customer's Design Review

Item #	Code	Title	Date	Rev #
DD.01	None.	None.	None.	None.

1.3.6 Verification Documents

Table 1-6 – Verification Documents

Item #	Code	Title	Date	Rev #
VD.01	1G00PS258G105	CBACS Safe. DFD Technical Specification.		A
VD.02	1G00PS258K111	CBACS Safe. DFD Bill of Materials.		A

1.4 Reference Standards and Regulations

Table 1-7 – Reference Standards and Regulations

Item #	Code	Title	Date	Rev #
ST.01	None.	None.	None.	None.

1.5 Glossary of Terms

Table 1-8 – Glossary of Terms

Term	Description
None.	None.

1.6 Glossary of Acronyms

Table 1-9 – Glossary of Acronyms

Acronym	Description
BACS	Building Automation Control System.
CBACS Safe	Central Building Automation Control System Safe
DCR	Depot Control Room.
Depot-BACS	Depot Building Automation Control System.
Depot-CBACS	Depot Central Building Automation Control System.
DFD	Detailed Final Design.
DTS	Digital Transmission System.
DTSR	Digital Transmission System Rack.
ECR	Emergency Control Room
EQP	Equipment Room.
GFD1	General Final Design 1.
GFD2	General Final Design 2.
HW or H/W	Hardware.
IT	Information Technology Infrastructure.
KVM	Keyboard Video Mouse.
LAN	Local Area Network.
LRU	Lowest Replaceable Unit or Line Replaceable Unit.
MCR	Main Control Room.
OCC	Operation Control Centre.
PBS	Product Breakdown Structure.
PLC	Programmable Logic Controller.
SMR	Station Master Room.
SW or S/W	Software.
TLC	Telecommunication System or Telecom Room.
UPS	Un-interruptible Power Supply.
WAN	Wide Area Network.

2 History of Revisions

2.1 List of Changes

First issue of this document, then no list of changes is defined.

Table 2-1 – Revision A – List of Changes

Item #	Reference	Remark / Question / Deficiency	Response	Changed Sections
RA.01	None	None	None	

2.2 List of Open Issues

First issue of this document, then no list of open issues is defined.

Table 2-2 – Revision A – List of Open Issues

Item #	Reference	Remark / Question / Deficiency	Response
OA.01	None.	None.	None.

2.3 Verification Report

Table 2-3 – Revision A – Verification Report

Item #	Reference	Verification Description	Result
VA.01	VD.01	All HW groups and subgroups defined in the VD.01 document are included in this document.	Success.
VA.02	VD.02	- All HW groups and subgroups defined in the VD.02 document are included in this document. - PBS coding rules defined in the VD.02 document have been applied to this document.	Success.

3 CBACS Safe Architecture Block Diagrams

3.1 General Description

CBACS Safe HW components are installed and operate in the below listed locations:

- Main Control Room;
- Emergency Control Room;
- The thirteen Station Master Rooms.

3.2 Architecture Drawings

CBACS' architecture drawings are included in the **Annex #2**.

They show, for each HW component:

- Position in the relevant location;
- Power supply and network-connecting cables' relationship.

3.3 Cables Specifications

Mechanical Specifications:

CONDxSECTION	TYPE	D.ext	Rmin	Weight [kg/km]
3G1.5	XLPE	10.7	130	163
3G2.5	XLPE	11.06	140	205
3G4	XLPE	12.5	150	260
3G6	XLPE	14.3	170	369
3G10	XLPE	17	200	529

EMI Specifications:

MN	NS	230Vac / 400Vac / 110Vdc / 24Vdc cables.
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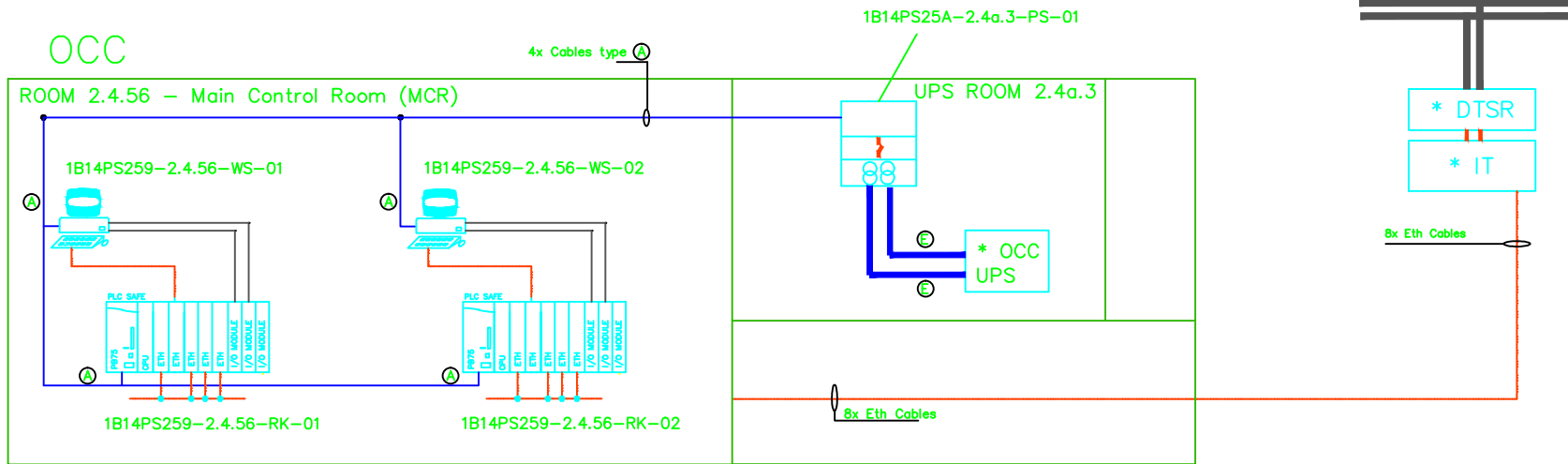
The **Annex #3** defines the FROM / TO Table (OCC, ECR and SMRs).

Κοινοπραξία ΜΕΤΡΟ ΘΕΣΣΑΛΟΝΙΚΗΣ
ΕΡΓΟ: CON - 06 / 004

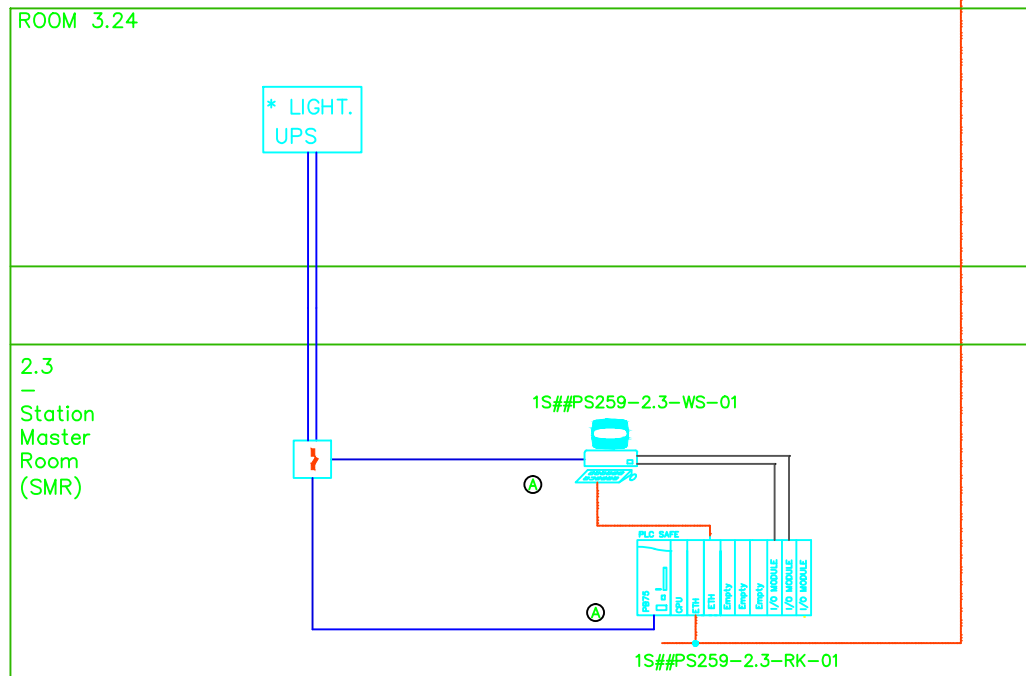
ΠΑΡΑΡΤΗΜΑΤΑ / APPENDICES

A/A R/N	ΚΩΔΙΚΟΣ CODE	ΤΙΤΛΟΣ TITLE	ΑΝΑΘΕΩΡΗΣΗ REVISION
1	1G00PS258C702A_EN_01	Cover Page	A
2	1G00PS258C702A_EN_02	Architecture Drawings	A
3	1G00PS258C702A_EN_03	Cables Lists From - To	A

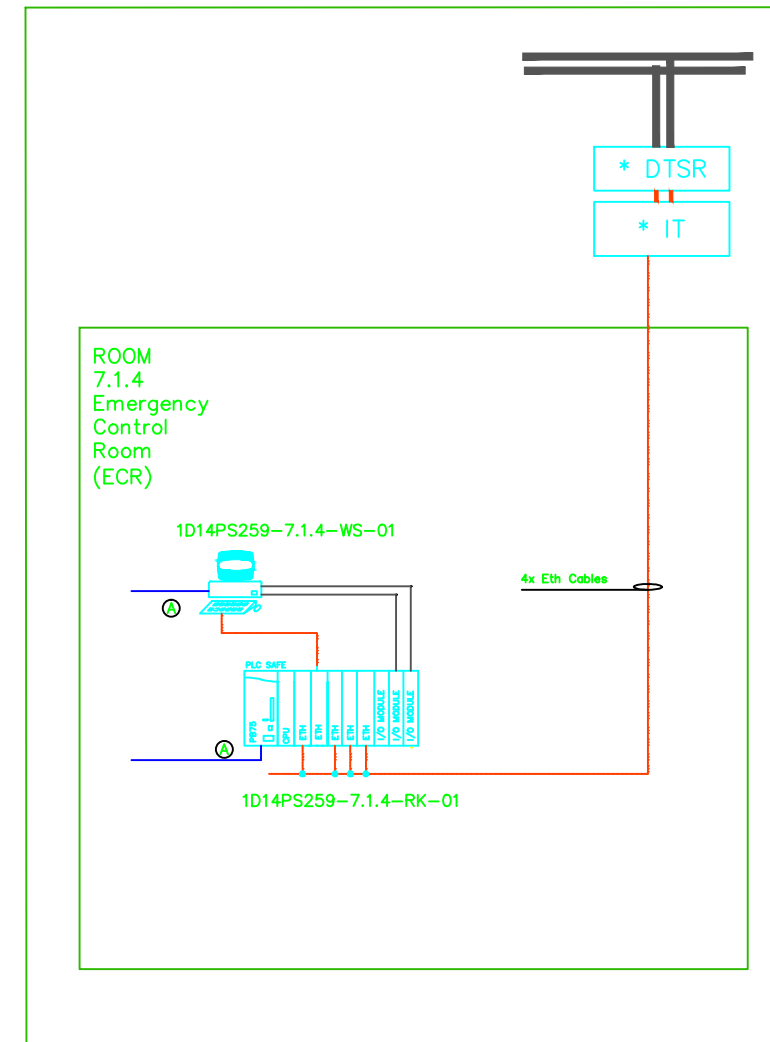
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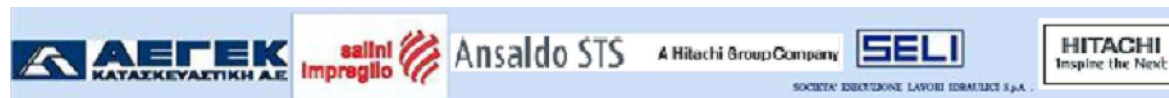
STATION



DEPOT



ΠΑΡΑΓΩΓΗ / ISSUED BY:



ΤΙΤΛΟΣ/ TITLE

CBACS Safe – DFD System Architecture Block Diagrams – ANNEX 2

ΑΡΙΘΜΟΣ ΕΓΓΡΑΦΟΥ / DOCUMENT NUMBER:

1G00PS258C702A

A.Σ/ C.R.:

ΚΑΙΜΑΚΑ / SCALE

ΜΕΤΕΘΟΣ / SIZE

A3

ΣΕΛΙΔΑ / SHEET No

1 of 1

ΑΡΧΕΙΟ / FILENAME

1G00PS258C702A_EN

Cable List From - To
OCC

Cable List From - To
Depot - ECR

