DIN EN 15232:2012-09 (E)

Energy performance of buildings - Impact of Building Automation, Controls and Building Management

Contents

Page

Foreword 3

Introduction 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 7

4 Abbreviations and acronyms 11

5 Impact of BACS and TBM on the energy performance of buildings 11
5.1 General 11
5.2 BACS and TBM functions having an impact on the energy performance of buildings 12
5.3 BACS Efficiency Class 20
5.4 BACS and TBM functions assigned to the BACS efficiency classes 21
5.5 Reference list of BACS functions 27
5.6 Applying BACS for EMS and maintaining BACS energy efficiency 30
5.6.1 GENERAL 30
5.6.2 Applying BACS for EMS 31
5.6.3 Maintaining BACS energy efficiency 31

6 Factor based calculation procedure of the BACS impact on the energy performance of buildings (BACS factor method) 32
6.1 General 32
6.2 Description of BACS Factor method 33
6.3 Overall BACS efficiency factors for thermal energy fBACS,th 37
6.4 Overall BACS efficiency factors for electric energy fBACS,el 38
6.5 Detailed BACS efficiency factors for heating and cooling 39
6.6 Detailed BACS efficiency factors for DHW 40
6.7 Detailed BACS efficiency factors for lighting and auxiliary energy 41
6.8 Sample calculation with the BACS factor method 42

Annex A (normative) Detailed calculation procedure of the BACS impact on the energy performance of buildings (Detailed method) 43

Annex B (informative) Determination of the BACS efficiency factors 60

Annex C (informative) Examples of how to use the BACS function list of EN ISO 16484-3 to describe functions from this European Standard 84

Annex D (informative) The impact of innovative integrated BACS functions (examples) 89

Annex E (informative) Applying BACS for EMS specified in EN 16001 99

Annex F (informative) Maintain BACS energy efficiency 108

Annex G (informative) Control accuracy 111

Bibliography 112