

DIN CEN/TS 18086:2025-02 (E)

Workplace exposure - Direct-reading low-cost particulate matter sensors for measuring airborne NOAA - Guidelines for application; English version CEN/TS 18086:2024

Contents	Page
European foreword	3
Introduction	4
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Symbols and abbreviations	9
4.1 Symbols	9
4.2 Abbreviations.....	9
5 Measurement principle of low-cost PM sensors	10
6 Usability of low-cost sensors for monitoring NOAA concentrations in workplaces.....	12
7 Calibration and adjustment of low-cost PM sensors	13
7.1 General.....	13
7.2 Laboratory calibration and adjustment	16
7.2.1 General.....	16
7.2.2 Particle size dependence of sensor reaction	16
7.2.3 Calibration and adjustment for polydisperse aerosols.....	20
7.3 Comparability of sensors	26
7.4 On site calibration in workplaces	27
8 Interfering factors and error sources.....	29
Annex A (informative) Sampling convention for different mass concentration fractions	31
Annex B (informative) Calibration of low-cost PM sensors with monodisperse particles - Results from prenormative research	33
Annex C (informative) Calibration of low-cost PM sensors with polydisperse particles - Results from prenormative research	37
Annex D (informative) Workplace measurements - Results from prenormative research.....	47
Annex E (informative) Measurement principle of low-cost PM sensors.....	58
Bibliography	64