

# 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

---

<b>Contents</b>	<b>Page</b>
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