

ICS 13.100
CCS D 09

AQ

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

AQ 6206-2006

**Coal mine high-low concentration methane transducer
(English Translation)**

Issued on: November 2, 2006

Implemented on: December 1, 2006

**Issued by: State Administration of Production Safety Supervision of
China**

Table of Contents

FOREWORD...	3
1 SCOPE...	4
2 NORMATIVE REFERENCES...	4
3 TERMS AND DEFINITIONS...	5
4 TECHNICAL REQUIREMENTS...	6
5 TESTING METHODS...	10
6 RULES FOR INSPECTION...	18
7 MARKINGS, PACKAGE, OPERATING INSTRUCTION MANUAL, TRANSPORT AND STORAGE...	21
REFERENCES AND ORIGINAL CHINESE DOCUMENTS...	23

Foreword

Coalmine carrier catalysis and heat conduction combined high-low concentration methane transducers are instruments to monitor methane gas in high gas and coal and gas burst mines in

Chinese coalmine safety monitoring systems. This standard is hereby set up according to related

state laws and standards in order to meet production safety requirements.

This standard is proposed by State Administration of Production Safety Supervision of China.

This standard is under the jurisdiction of Sub Technical Committee for Coalmine Safety under

National Technical Committee for Production Safety Standardization.

This standard is responsibly drafted by Chongqing Branch under Coal Science Academy and

Chongqing Mining Production Safety Equipment Test Center.

This standard is specifically drafted by Huang Qiang, Fan Rong, Wang Tao, Yu Qing, Du Wenjun,

Chen Fumin and Shi Faqiang.

Coalmine High-Low Concentration Methane Transducers

1 Scope

This standard specifies technical requirements, testing methods, rules for inspection, marking, packing, operating instruction, transport and storage of coalmine carrier catalysis and heat conduction combined high-low concentration methane transducers.

This standard applies to carrier catalysis and heat conduction combined high-low concentration

methane transducers with measuring ranges (0-40)% CH₄ and (0-100)% CH₄ used in underground

coalmine environment monitoring (known as transducers for short hereafter).

2 Normative references

The following normative documents contain provisions which, through reference in the text, constitute provisions of this standard. For dated reference, subsequent amendments to, or revisions

of, any of these publications (excluding contents of corrigenda) do not apply. However, parties to

agreements based on this standard are encouraged to investigate the possibility of applying the

most recent editions of the standards indicated below. For undated references, the latest edition of

the normative document referred to applies.

GB 191-2000 Packaging-Pictorial marking for handling of goods

GB/T 2423.1-2001 Environmental testing for electric and electronic and electronic products--Part

2 Test methods--Tests A. Cold

GB/T 2423.2-2001 Environmental testing for electric and electronic products--Part 2. Test methods--Tests B. Dry heat

GB/T 2423.4-93 Basic environmental testing procedures for electric and electronic products-Test

Db. Damp heat, cyclic

GB/T 2423.5-1995 Environmental testing for electric and electronic products Part 2. Test methods

Test Ea and guidance. Shock

GB/T 2423.8-1995 Environmental testing for electric and electronic products Part 2. Test methods

Test Ed. Free fall

GB/T 2423.10-1995 Environmental testing for electric and electronic products-Part 2. Test methods Test Fc and guidance. Vibration (Sinusoidal)

GB 3836.1-2000 Electrical apparatus for explosive gas atmospheres--Part 1. General requirements

GB 3836.2-2000 Electrical apparatus for explosive gas atmospheres--Part 2. Flameproof enclosure

GB 3836.4-2000 Electrical apparatus for explosive gas atmospheres--Part 4. Intrinsic safety

GB 4208-93 Degrees of protection provided by enclosure (IP code)

GB9969.1-1998 General principles for preparation of instructions for use of industrial products

GB 10111-88 Methods for and sampling by utilizing dices of random number

AQ 6202-2006 Coal mina carrier catalytic element for methane detection

MT 210-90 Basic test methods for electric and electronic products for coal mine communication,

testing and control

MT/T 772-1998 Measuring methods for the primary performances of coal mine supervision systems

3.1 Displayed value

Measured numerical value displayed on transducer.

3.2 Zero point

Value displayed on transducer which operates normally in clean air.

3.3 Calibration point

Standard gas sample value selected for transducer to meet measuring accuracy.

3.4 Alarm point

Alarm actuation value preset for transducer according to application requirement.

3.5 Basic error

Transducer measurement error value determined under normal test conditions.

3.6 Stability

Performances of transducer to maintain its zero point, calibration point and alarm point within

allowed variation ranges within specified operating conditions and time.

3.7 response time T90

Time required for transducer output to reach 90% stabilized value when methane concentration

shows step change.

4.1.1 Transducers shall meet requirements provided herein and be manufactured according to

specified procedure and drawings and technical documents approved by a state-authorized inspection agency.

4.1.2 Transducer outfitting with associated equipment shall be qualified by an anti-explosion

inspection agency authorized by a competent authority. Equipment associated with transducers

shall carry mining product safety certificate with validity.

4.1.3 Transducer anti-explosion type shall be mining intrinsic safety and explosion suppression

type, marked with "ExibdI".