



Member State of OIML  
Japan



OIML Certificate No.  
R60/2000-JP1-12.04  
Revision 1

## OIML CERTIFICATE OF CONFORMITY

### Issuing authority

Name: National Metrology Institute of Japan / National Institute of  
Advanced Industrial Science and Technology (NMIJ / AIST)  
Address: AIST Tsukuba Central 3-9, Tsukuba Ibaraki 305-8563, Japan  
Person responsible: Dr. Tamotsu Nomakuchi, President of AIST

### Applicant

Name: MINEBEA CO., LTD.  
Address: 1-1-1, Katase, Fujisawa-shi, Kanagawa-ken, 251-8531, Japan

### Manufacturer of the certified pattern

Name: MINEBEA CO., LTD.  
Address: 1-1-1, Katase, Fujisawa-shi, Kanagawa-ken, 251-8531, Japan

### Identification of the certified pattern:

Compression load cell  
Type: CC010-10T-C3, CC010-20T-C3, CC010-30T-C3, CC010-50T-C3  
Fraction:  $\pi=0.7$   
Temperature range:  $-10\text{ }^{\circ}\text{C} / 40\text{ }^{\circ}\text{C}$



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Characteristics:

Model designation			CC010-xx T-C3 where xx equivalent to the $E_{max} / 1000$
Accuracy class	Class	-	C
Maximum number of load cell verification intervals	$n_{max}$	-	3000
Humidity symbol			CH
Minimum dead load	$E_{min}$	kg	0
Maximum capacity	$E_{max}$	kg	10000,20000,30000,50000
Safe load limit	$E_{lim}$	kg	$1.5 * E_{max}$
Minimum verification interval	$v_{min}$	kg	$E_{max} / 10000$
Apportionment factor	$p_{LC}$		0.7
Ratio of minimum LC Verification interval $Y = E_{max} / v_{min}$	Y	-	10000
Ratio of minimum dead load output return $Z = E_{max} / (2 * DR)$	Z	-	3000
Rated output		mV/V	2.0
excitation voltage		V DC	5~15
Input impedance	$R_{LC}$	$\Omega$	$700 \pm 7$
Cable detail		-	10m 4wire

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report(s) with the requirements of the following Recommendation of the International Organization of Legal Metrology - OIML):

R60, edition 2000 (E)  
For accuracy class C

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.

This certificate does not bestow any form of legal international approval.

The conformity was established by tests described in the associated test report no. 12-10/R60:2000, that includes 19 pages.



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The Issuing Authority  
NMIJ/AIST

The OIML member



Dr. T. Nomakuchi  
President of AIST  
2012-09-06

Dr. Y. Miki  
2012-09-06

Important note: Apart from the mention of certificate's reference number and the name of the OIML Member State in which the certificate is issued, partial quotation of the certificate and of the associated Test Report is not permitted, although either may be reproduced in full.



## Evaluation Report

Load cells

### Issuing Authority

Name : National Metrology Institute of Japan /National Institute  
of Advanced Industrial Science and Technology (NMIJ/AIST)

Address : AIST Tsukuba Central 3, Tsukuba Ibaraki 305-8563, Japan

Applicant : MINEBEA CO., LTD.

Manufacturer : MINEBEA CO., LTD.

Applied Type : CC010-10T-C3, CC010-20T-C3, CC010-30T-C3, CC010-50T-C3

Evaluation Report Number: 24-009

This report ensures the conformity of the applied type with the requirements of the OIML R60 (edition 2000), on the basis of evaluation of the attached test report (N° 12-10/R60:2000).

Evaluator :

Wataru Kaminaga  
Legal Metrology Division  
NMIJ/AIST

Signature :

*W. Kaminaga*

Date: 2012. 9. 3

Supervisor :

Shigeki Yamaguchi  
Head of Legal Metrology Division  
NMIJ/AIST

Signature :

*Shigeki Yamaguchi*

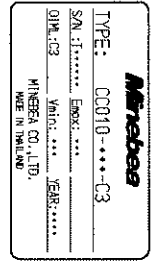
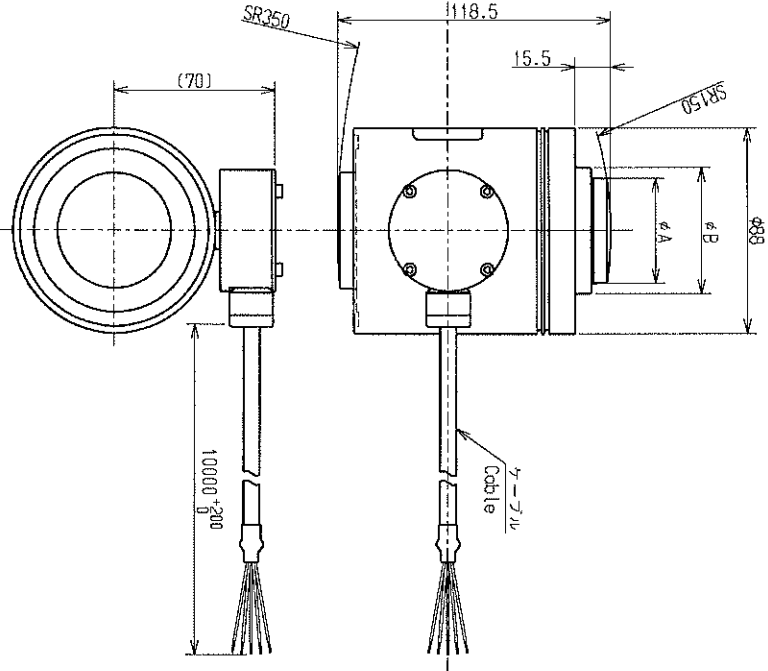
Date: 2012. 9. 3

## Description

### Technical data

Model designation			CC010-xx T-C3 where xx equivalent to the $E_{max}/1000$
Accuracy class	Class	-	C
Maximum number of load cell verification intervals	$n_{max}$	-	3000
Humidity symbol			CH
Minimum dead load	$E_{min}$	kg	0
Maximum capacity	$E_{max}$	kg	10000,20000,30000,50000
Safe load limit	$E_{lim}$	kg	$1.5 * E_{max}$
Minimum verification interval	$v_{min}$	kg	$E_{max}/10000$
Apportionment factor	$p_{LC}$		0.7
Ratio of minimum LC Verification interval $Y = E_{max} / v_{min}$	Y	-	10000
Ratio of minimum dead load output return $Z = E_{max} / (2 * DR)$	Z	-	3000
Rated output		mV/V	2.0
excitation voltage		V DC	5~15
Input impedance	$R_{LC}$	$\Omega$	$700 \pm 7$
Cable detail		-	10m 4wire

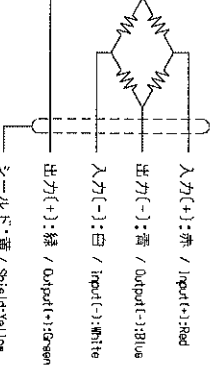
1 2 3 4 5 6 7



マニ表示  
Indication of label

<<外形寸法表/Outside>> Unit: mm

型式/Type	φA	φB
CC010-101-C3	φ4.5	φ5.4
CC010-201-C3	φ4.5	φ5.4
CC010-301-C3	φ5.0	φ5.8
CC010-501-C3	φ5.0	φ5.8



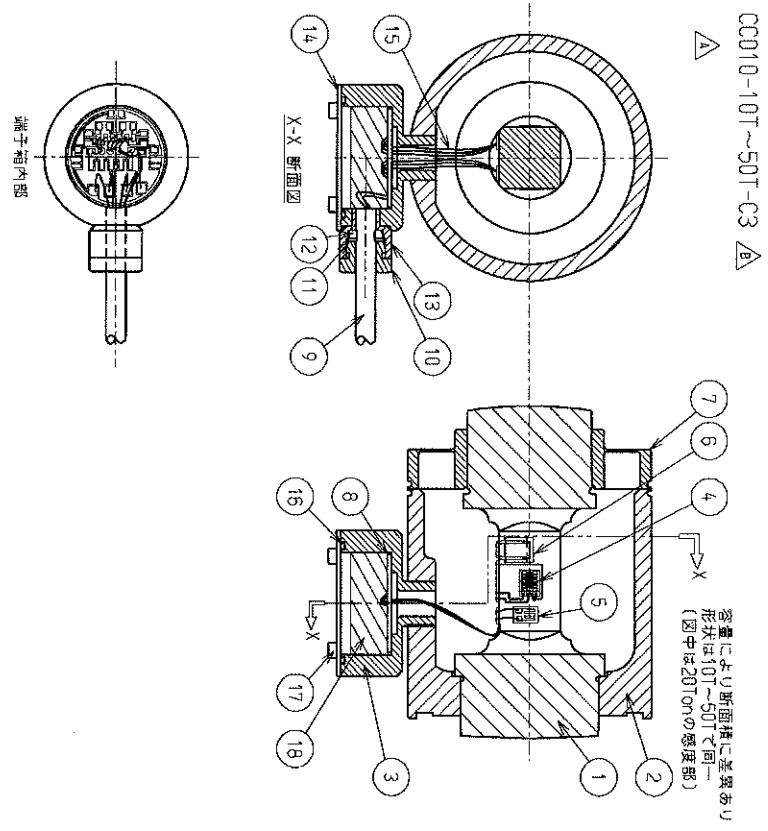
公布
K
S
T
F

MARK	DATE	REASON	ECN NO.	ENGINEER	承認	F. IDE	S. UCHIDORI	K. SHIBASAKI
B	2012.8.28	KN12-0332		Shibasaki F. IDE	担当	APPROVED	CHECKED	DRAWN
A	2012.5.9	KN12-0166		Shibasaki A. MURO	承認	APPROVED		

単位 UNIT	尺貫 SCALE	公差 TOL
mm	mm	mm
mm	mm	mm
mm	mm	mm
mm	mm	mm
mm	mm	mm
mm	mm	mm
mm	mm	mm
mm	mm	mm

依頼試験申請用	作成日 DATE	2012.1.20
品名 DESCRIPTION	外観図(OUTLINE)	
品番 PART NO. (MODEL NO.)	CC010-101-501-C3	
図番 DRAWING NO.	KT53241-2	
改訂 REV.	B	

1 2 3 4 5 6 7



△ A

部品表

No.	部品名	材質	数量
1	エレメント	15-SPH	1
2	カバー	SUS303 or 304	1
3	端子箱	SUS303 or 304	1
4	ひびみゲージ		2
5	温度補償ゲージ		2
6	半導体ゲージ		2
7	ゲイゲララム	SUS304	1
8	ワウント配線板	カラスエポキシ	1
9	ケーシング	SUS303	1
10	ガラスボリヤット	SUS303	1
11	ガラスボリヤット	SUS303	1
12	ガラスボリヤット	ネオアレンゾム	1
13	ケーシング引き出し口	SUS303	1
14	ワグ	SUS303 or 304	1
15	引き出し線		1
16	オーリング	SUS	4
17	六角穴付きボルト		
18	圧縮材		

公布	
K	
S	
T	
F	

<b>ミネベア株式会社</b> MINERBA CO.,LTD. <b>計測機器事業部</b>		APPROVED: F. IDE CHECKED: S. UCHIBORI DRAWN: K. SHIRASAKI
承認者 相当 ENGINEER (APPROVED)	承認 相当 ENGINEER (APPROVED)	ECN NO. ECN NO.
理由 REASON	変更番号 KN12-0186	承認者 SHIBASAKI, A. MURO
日付 DATE	2012.8.28 2012.5.9	承認者 SHIBASAKI, F. IDE
行号 MARK	A B	承認者 SHIBASAKI, F. IDE

単位 UNIT 尺規 SCALE 公差 TOL	材質 MATERIAL 表面処理 SURF. TREAT. 公差 TOL
公差 TOL ±0.1 ±0.2 ±0.3 ±0.5 ±1.0 ±0.8	表面処理 SURF. TREAT. 公差 TOL ±0.1 ±0.2 ±0.3 ±0.5 ±1.0 ±0.8

作成日 DATE 2012.1.23	品番 PART NO. (MODEL NO.) CC010-10T~50T-C3	検査 SHEET 枚数 1
依頼試験申請用 構造詳細図	図番 DRAWING NO. KT01692-2	改訂 REV. B