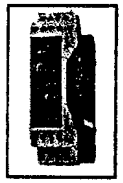
Launching year 2002

COM3C technical data sheet

Thank you for your confidence in BTI products.
This product has been designed and manufactured to the highest standards.



* uncontractual picture

1. Application:

The COM3C relay equipped with two push buttons gathers the same characteristics of a two hand control device from III C type. This relay is used to work on presses, the movement of which can be interrupted at any time during the cycle, such as the friction clutch presses, the hydraulic presses, bending machines, etc.

2.Regulation

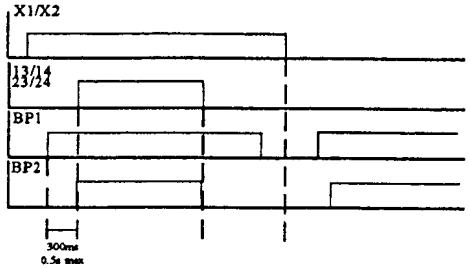
COM3C : Category III C as per EN574 and category 4 as per EN954-1.
Machine's regulation : EN60204-1, EN292

3.Fixing and Wiring

22.5mm wide case mountable on a 35mm symmetrical DIN rail according to DIN 50022.
The tightening couple of the terminals is 0.5 Nm.
The maximum diameter of the wiring cable is 1.5mm².
The wiring between the COM3C and the external elements (pushbuttons, e.g.) has to be performed with wires, whose isolation is dimensioned for a nominal voltage of 250V, even if the signal is only 24VDC.

4.Functioning

The two control system devices have to be connected as per the below diagram. The LED ON is lit up.



5.General calculation formula of the minimal distance of security according to EN 999:

The minimal distance between the danger zone and the nearest operator is calculated by using the following formula: S = (1600 (mm/s) x T (s)) + 250 (mm) in which S stands for the minimal covered distance by a hand from the corresponding push button to the danger zone. T stands for the global response time calculated in seconds. Taking into consideration that the maximum response time of the module is 20 ms, the remaining thing to establish is the time «t» corresponding to the stopping of the machine. Then, T(s) = t(s) + 0.02 (s).

Advise:

The installation has to be periodically checked. Our engineers team stays at your disposal to answer your questions and analyse all your specific demands (studies, specific needs...). Please do not hesitate to contact us.

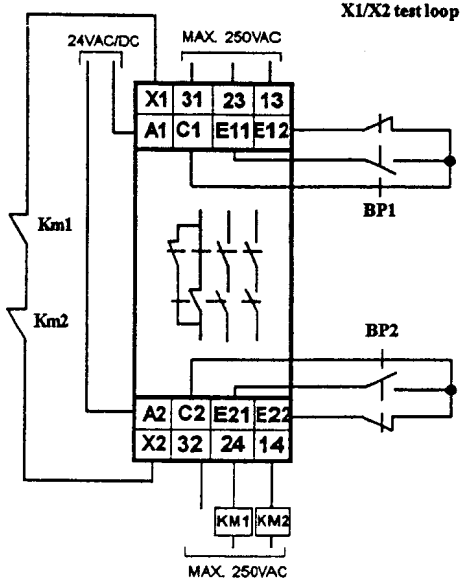
6.Technical Characteristics:

	COM3C
Supply voltage (not SELV or PELV)	24VAC 50Hz/60Hz or 24VDC
Tolerance of the supply voltage	-15 % / +10 %
DC/AC Consumption	< 2W (DC) ; < 5VA (AC)
Electrical protection	DLC : Electronic current-limiting circuit-breaker
Switching capacity	8A / 250VAC cos φ = 1
Min. switching power	>50 mW
Life expectancy	10 millions mechanical operations
Response time	< 20ms
Temperature	-20 °C / +60 °C
Protection class	IP20
Dimensions L x H x P	22,5 x 100 x 111mm
Weight	178 g

7.Wiring example

Safety lines : 13-14, 23-24, 31-32

X1/X2 test loop



31-32 can also be used as an auxiliary line for PLC

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technical data sheet subject to technical modifications

BTI
MANUFACTURER OF SAFETY MATERIAL
Z.I. des Richardets
34, Allée du Closeau
93160 Noisy Le Grand
France

DECLARATION OF CONFORMITY

This document is the conformity declaration concerning safety module COM3C , conform to the machine directive 89/392/CEE (modified by the directive 91/368/CEE and 93/44/CEE) and the Directive 89/336/CEE (CEM).

SAFETY MODULE

Range	Standards	Approval	Category selon EN 954-1
COM3C	EN954-1	TUV	4

This safety module must be used following diagramm and european directives.

Noisy le Grand, 25th April 2002

For BTI,
Mrs Michèle LEFOULON ,

Acotom process

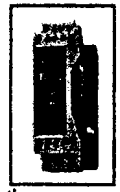
SECURITE MACHINE

Année de lancement 2002

Notice technique du boîtier COM3C

CE

Vous venez de faire l'acquisition d'un produit BTI, nous vous remercions de votre confiance.
Afin de vous garantir une haute fiabilité, ce produit de nouvelle technologie a été développé et fabriqué avec le plus grand soin.



1. Domaine d'application:

Le boîtier COM3C associé à deux boutons poussoirs permet de constituer une commande bimanuelle de type III C. Ce boîtier est utilisé pour commander les presses dont le mouvement peut être interrompu en tous points du cycle comme par exemple les presses à embrayage à friction, hydrauliques, plieuses etc.

2. Conformité aux normes:

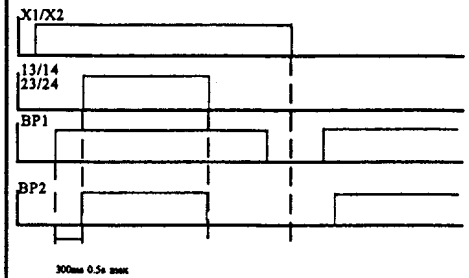
COM3C : Catégorie III C selon EN574 et cat. 4 selon EN954-1.
Ensemble machines : EN 60204-1, EN 292.

3. Instructions de montage:

Boîtier 22.5mm encliquetable sur rail DIN symétrique 35mm suivant DIN 50022.
Le couple de serrage des borniers est de 0.5 Nm.
Le diamètre maximum des fils de câblage est de 1.5mm².
Le câblage entre le COM3C et les éléments extérieurs (boutons poussoirs,...) doit être réalisé avec des fils dont l'isolation est prévue pour une tension nominale de 250V, même si le signal est de 24V.

4. Fonctionnement:

Connecter 2 organes de service conformément au schéma ci-contre.
LED ON allumée.



5. Formule générale de calcul de la distance minimale de sécurité selon EN 999:

La distance minimum entre la zone de danger et l'actionneur le plus proche est calculée en utilisant la formule suivante :
S = (1600 (mm/s) x T (s)) + 250 (mm) dans laquelle S est le chemin minimal parcouru par une main depuis le bouton poussoir correspondant jusqu' à la zone de danger. T est le temps de réponse global en secondes. Sachant que le temps maximum de réponse du module est de 20ms, il reste à déterminer le temps "t" de mise à l'arrêt de la machine.
Alors T (s) = t (s) + 0.02 (s).

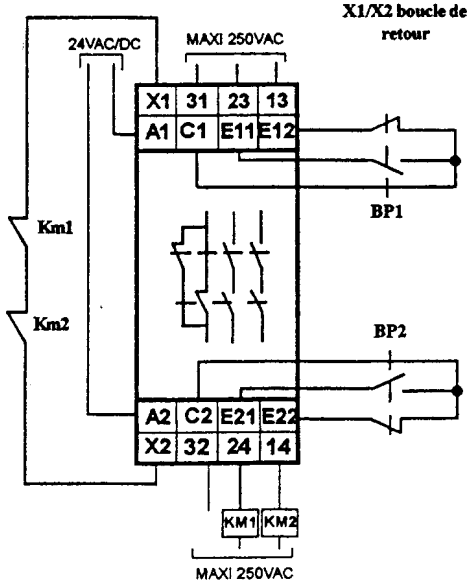
Remarque :
Toute installation de sécurité doit être vérifiée périodiquement. Notre équipe d'ingénieurs se tient à votre disposition pour répondre à vos questions et analyser toute demande particulière (étude, fabrication spécifique...). N'hésitez pas à nous contacter.

6. Caractéristiques techniques:

	COM3C
Alimentation (pas SELV ou PELV)	24VAC 50Hz/60Hz ou 24VDC
Tolérance sur l'alimentation	-15 % / +10 %
Consommation DC/AC	< 2W (DC) ; < 5VA (AC)
Protection électrique	DLC : Disjoncteur électronique à limitation de courant
Lignes de sécurité	8A / 250VAC cos φ = 1
Puissance minimum commutée	>50 mW
Durée de vie	10 millions de manoeuvres mécaniques
Temps de réponse	< 20ms
Température	-20 °C / +60 °C
Indice de protection	IP20
Dimensions L x H x P	22,5 x 100 x 111mm
Poids	178 g

7. Exemple de Câblage

Lignes de sécurité : 13-14, 23-24, 31-32



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V1.0